

attributes backend **base64** bibTeX bitset  
bitset blobs boolean buffers builders bytemap  
caches **callback** callbacks catcodes characters  
chemistry commands containers context  
converters **coroutine** ctxrunner **debug** dir  
directives document documentdata drivers  
effects environment experiments figures **file**  
**fio** floats **font** fonts functions globaldata  
globals graphics gzip helper images  
interactions interfaces **io** job kpse **language**  
languages layouts **lfs** libraries lmx loaders  
logs lpdf **lpeg** **lua** **luac** luatex lxml **math**  
mathematics **md5** metapost mime moduledata  
modules mp **mplib** nanojpeg noads **node** nodes  
number objects optional **os** **package**  
pagebuilders parametersets pdf **pdfdecode** **pdfe**  
physics **pngdecode** **posit** **potrace** publications  
qrcodegen regimes resolvers sandbox scripts  
serial set **sha2** **sio** **socket** sorters **sparse**  
statistics **status** storage streams **string**  
structures **table** **tex** texconditionals **texconfig**  
texconstants texifs **texio** texisdefined  
texmodes texsystemmodes thirddata **token** tokens  
tracers trackers typesetters updaters url  
userdata **utf8** utilities **vector** visualizers  
**xcomplex** **xdecimal** **xinterval** **xmath** xml **xzip**  
zbuffer zip zlib

# ConTeXt LMTX

# global (alias: \_G)

|                            |          |                     |            |
|----------------------------|----------|---------------------|------------|
| <b>CONTEXTLMTXMODE</b>     | number   | <b>dimen</b>        | function   |
| <b>LUAFORMAT</b>           | number   | <b>dir</b>          | table      |
| <b>LUAMAJORVERSION</b>     | number   | <b>directives</b>   | table      |
| <b>LUAMINORVERSION</b>     | number   | <b>document</b>     | table      |
| <b>LUATEXENGINE</b>        | string   | <b>documentdata</b> | table      |
| <b>LUATEXFORMATID</b>      | number   | <b>dofile</b>       | function   |
| <b>LUATEXFUNCTIONALITY</b> | number   | <b>drivers</b>      | table      |
| <b>LUATEXVERBOSE</b>       | string   | <b>effects</b>      | table      |
| <b>LUATEXVERSION</b>       | number   | <b>environment</b>  | table      |
| <b>LUAVERSION</b>          | number   | <b>error</b>        | function   |
| <b>MP</b>                  | function | <b>experiments</b>  | table      |
| <b>SAVEDREQUIRE</b>        | function | <b>figures</b>      | table      |
| <b>aes</b>                 | table    | <b>file</b>         | table      |
| <b>arg</b>                 | table    | <b>fio</b>          | table      |
| <b>assert</b>              | function | <b>floats</b>       | table      |
| <b>attributes</b>          | table    | <b>font</b>         | table      |
| <b>backends</b>            | table    | <b>fonts</b>        | table      |
| <b>basexx</b>              | table    | <b>functions</b>    | table      |
| <b>bibtex</b>              | table    | <b>getmetatable</b> | function   |
| <b>bit32</b>               | table    | <b>globaldata</b>   | table      |
| <b>bitset</b>              | table    | <b>globals</b>      | table      |
| <b>blobs</b>               | table    | <b>graphics</b>     | table      |
| <b>boolean</b>             | table    | <b>gzip</b>         | table      |
| <b>buffers</b>             | table    | <b>helper</b>       | table      |
| <b>builders</b>            | table    | <b>images</b>       | table      |
| <b>bytemap</b>             | table    | <b>inspect</b>      | function   |
| <b>caches</b>              | table    | <b>interactions</b> | table      |
| <b>callback</b>            | table    | <b>interfaces</b>   | table      |
| <b>callbacks</b>           | table    | <b>io</b>           | table      |
| <b>catcodes</b>            | table    | <b>ipairs</b>       | function   |
| <b>characterkern</b>       | function | <b>job</b>          | table      |
| <b>characters</b>          | table    | <b>kpse</b>         | table      |
| <b>chemistry</b>           | table    | <b>language</b>     | table      |
| <b>collectgarbage</b>      | function | <b>languages</b>    | table      |
| <b>commands</b>            | table    | <b>layouts</b>      | table      |
| <b>containers</b>          | table    | <b>lfs</b>          | table      |
| <b>context</b>             | function | <b>libraries</b>    | table      |
| <b>converters</b>          | table    | <b>ltx</b>          | table      |
| <b>coroutine</b>           | table    | <b>load</b>         | function   |
| <b>ctxrunner</b>           | table    | <b>loaders</b>      | data table |
| <b>debug</b>               | table    | <b>loadfile</b>     | function   |

|                        |          |                          |            |
|------------------------|----------|--------------------------|------------|
| <b>loadstring</b>      | function | <b>rawlen</b>            | function   |
| <b>logs</b>            | table    | <b>rawset</b>            | function   |
| <b>lpdf</b>            | table    | <b>regimes</b>           | table      |
| <b>lpeg</b>            | table    | <b>require</b>           | function   |
| <b>lua</b>             | table    | <b>resolvers</b>         | table      |
| <b>luac</b>            | table    | <b>sandbox</b>           | table      |
| <b>luatex</b>          | table    | <b>scripts</b>           | table      |
| <b>lxml</b>            | table    | <b>select</b>            | function   |
| <b>math</b>            | table    | <b>serial</b>            | table      |
| <b>mathematics</b>     | table    | <b>set</b>               | table      |
| <b>md5</b>             | table    | <b>setinspector</b>      | function   |
| <b>metapost</b>        | table    | <b>setmathparameters</b> | function   |
| <b>mime</b>            | table    | <b>setmetatable</b>      | function   |
| <b>moduledata</b>      | table    | <b>sha2</b>              | table      |
| <b>modules</b>         | table    | <b>sio</b>               | table      |
| <b>mp</b>              | function | <b>socket</b>            | table      |
| <b>mplib</b>           | table    | <b>sorters</b>           | table      |
| <b>nanojpeg</b>        | table    | <b>sparse</b>            | table      |
| <b>next</b>            | function | <b>statistics</b>        | table      |
| <b>noads</b>           | table    | <b>status</b>            | table      |
| <b>node</b>            | table    | <b>storage</b>           | table      |
| <b>nodes</b>           | table    | <b>streams</b>           | table      |
| <b>number</b>          | table    | <b>string</b>            | table      |
| <b>objects</b>         | table    | <b>structures</b>        | table      |
| <b>optional</b>        | table    | <b>table</b>             | table      |
| <b>optionalrequire</b> | function | <b>tex</b>               | table      |
| <b>os</b>              | table    | <b>texconditionals</b>   | data table |
| <b>package</b>         | table    | <b>texconfig</b>         | table      |
| <b>pagebuilders</b>    | table    | <b>texconstants</b>      | data table |
| <b>pairs</b>           | function | <b>texifs</b>            | data table |
| <b>parametersets</b>   | table    | <b>texio</b>             | table      |
| <b>pcall</b>           | function | <b>texisdefined</b>      | data table |
| <b>pdf</b>             | table    | <b>texmodes</b>          | data table |
| <b>pdfdecode</b>       | table    | <b>texsystemmodes</b>    | data table |
| <b>pdfe</b>            | table    | <b>thirddata</b>         | table      |
| <b>physics</b>         | table    | <b>toboolean</b>         | function   |
| <b>pngdecode</b>       | table    | <b>todecimal</b>         | function   |
| <b>posit</b>           | table    | <b>token</b>             | table      |
| <b>potrace</b>         | table    | <b>tokens</b>            | table      |
| <b>print</b>           | function | <b>tonumber</b>          | function   |
| <b>publications</b>    | table    | <b>tostring</b>          | function   |
| <b>qrcodegen</b>       | table    | <b>tracers</b>           | table      |
| <b>rawequal</b>        | function | <b>trackers</b>          | table      |
| <b>rawget</b>          | function | <b>type</b>              | function   |

|                    |          |                  |          |
|--------------------|----------|------------------|----------|
| <b>typesetters</b> | table    | <b>xcomplex</b>  | table    |
| <b>unpack</b>      | function | <b>xdecimal</b>  | table    |
| <b>updaters</b>    | table    | <b>xinterval</b> | table    |
| <b>url</b>         | table    | <b>xmath</b>     | table    |
| <b>userdata</b>    | table    | <b>xml</b>       | table    |
| <b>utf</b>         | table    | <b>xpcall</b>    | function |
| <b>utf8</b>        | table    | <b>xzip</b>      | table    |
| <b>utilities</b>   | table    | <b>zbuffer</b>   | table    |
| <b>vector</b>      | table    | <b>zip</b>       | table    |
| <b>visualizers</b> | table    | <b>zlib</b>      | table    |
| <b>warn</b>        | function |                  |          |

# aes (extra lua)

**decode** function  
**encode** function

**random** function

# attributes (context)

## **alternates** table

N attribute  
D data  
F enable  
F handler  
F register  
D registered  
D values

## **applyoverloads** function

## **checkvalues** function

## **colorintents** table

N attribute  
D data  
F enable  
F handler  
F register  
D registered

## **colors** table

N attribute  
F cmyk  
F cmyktogray  
F cmyktorgb  
F colorcomponents  
D counts  
B couple  
F currentmodel  
F currentnamedmodel  
D data  
N default  
F defineintermediatecolor  
F definemultitonecolor  
F defineprocesscolor  
F defineprocesscolordirect  
F definesimplegray  
F definespotcolor  
F definetransparency  
F enable  
F filter  
N forced  
F forcedmodel  
F forcesupport

F formatcolor  
F formatgray  
F formatluminance  
F formatluminanceratio  
F getpagecolormodel  
F gray  
F graytohsv  
F handler  
T helpers  
F complement  
F inbetween  
F justone  
F hsvtorgay  
F hsvtorgb  
F hwbtorgb  
F iccprofile  
F isblack  
F labtolch  
F labtorgb  
F labtoxyz  
F lchtolab  
F lchtorgb  
N main  
S model  
D models  
F mpcolor  
F mpnamedcolor  
F mpoptions  
F mprgbcolor  
F namedcolorattributes  
N none  
F popset  
F processcolorcomponents  
F pushset  
F register  
D registered  
F registerspotcolor  
F rgb  
F rgbbytes  
F rgbtocmyk  
F rgbtorgay

F rgbtohsv  
 F rgbtoxyz  
 N selector  
 F setlist  
 F setmodel  
 F setpagecolormodel  
 D sets  
 F spec  
 F spot  
 F spotcolorname  
 F spotcolorparent  
 F spotcolorvalue  
 B supported  
 F toattributes  
 F transparencycomponents  
 B triggering  
 F usecolors  
 D valid  
 F value  
 D values  
 B weightgray  
 F xyztolab  
 F xyztorgb

**counts** data table  
**define** function  
**effects** table

N attribute  
 D data  
 F enable  
 F handler  
 F register  
 D registered  
 D values

**getvalue** function  
**getvalues** function  
**handlers** table  
**hasvalues** function  
**list** data table  
**markasoverload** function  
**names** data table  
**negatives** table

N attribute  
 D data  
 F enable

F handler  
 F register  
 D registered  
 F set

**numbers** data table  
**ofnode** function  
**private** function  
**public** function  
**registervalue** function  
**restore** function  
**save** function  
**setcleaner** function  
**showcurrent** function  
**states** table

F disabletriggering  
 F enabletriggering  
 F finalize  
 F initialize  
 F process  
 F selective  
 F simple  
 F stacked  
 F stacker

**system** function  
**tooverloads** function  
**transparencies** table

N attribute  
 D data  
 F enable  
 F forcesupport  
 F handler  
 T names  
 N color  
 N colorburn  
 N colordodge  
 N darken  
 N difference  
 N exclusion  
 N hardlight  
 N hue  
 N lighten  
 N luminosity  
 N multiply  
 N none

|                     |            |                          |
|---------------------|------------|--------------------------|
| N normal            |            | F definedlayoutcomponent |
| N overlay           |            | F enable                 |
| N saturation        |            | F forcesupport           |
| N screen            |            | F handler                |
| N softlight         |            | B hasorder               |
| N none              |            | D listwise               |
| F register          |            | F register               |
| D registered        |            | D registered             |
| B supported         |            | F resolve_begin          |
| F toattribute       |            | F resolve_end            |
| B triggering        |            | F resolve_reset          |
| F value             |            | F resolve_step           |
| D values            |            | D scopes                 |
| <b>unsetvalue</b>   | number     | F setfeatures            |
| <b>values</b>       | data table | F setup                  |
| <b>viewerlayers</b> | table      | F start                  |
| N attribute         |            | F stop                   |
| F cleanup           |            | B supported              |
| D data              |            | D values                 |
| F define            |            |                          |

# backends (context)

|                         |          |                               |
|-------------------------|----------|-------------------------------|
| <b>closeout</b>         | function | F analyzenormalsymbol         |
| <b>codeinjections</b>   | table    | F analyzesymbol               |
| F registerboxresource   |          | F attachmentid                |
| F registerfont          |          | F bitmap                      |
| F restoreboxresource    |          | F clonefield                  |
| <b>current</b>          | string   | F copyimage                   |
| <b>defaults</b>         | table    | F defaultprofile              |
| T codeinjections        |          | F definefield                 |
| F prerollreference      |          | F definefieldset              |
| F setautoprefix         |          | F defineviewerlayer           |
| F vfstartcolor          |          | F discardpages                |
| F vfstopcolor           |          | F embedfile                   |
| T nodeinjections        |          | F embedimage                  |
| F cmykcolor             |          | F enabletags                  |
| F destination           |          | F exportformdata              |
| F graycolor             |          | F fieldsurrounding            |
| F injectknockout        |          | F flushmergelayer             |
| F injectoverprint       |          | F getbookmarks                |
| F reference             |          | F getboxresourcebox           |
| F rgbcolor              |          | F getdefaultfieldvalue        |
| F spotcolor             |          | F getfieldcategory            |
| F transparency          |          | F getfieldset                 |
| T registrations         |          | F getformatoption             |
| F transparency          |          | F getinfo                     |
| D tables                |          | F getlinkstructureparent      |
| <b>getcallbackstate</b> | function | F getreferencestructureobject |
| <b>included</b>         | table    | F getrefobj                   |
| B context               |          | F insertrenderingwindow       |
| B date                  |          | F jp2                         |
| B id                    |          | F jpg                         |
| B metadata              |          | F maptag                      |
| B pdf                   |          | F mergebookmarks              |
| <b>initialize</b>       | function | F mergecomments               |
| <b>latelua</b>          | function | F mergefields                 |
| <b>nodeinjections</b>   | table    | F mergereferences             |
| <b>nothing</b>          | function | F mergerenditions             |
| <b>openout</b>          | function | F mergeviewerlayers           |
| <b>registered</b>       | table    | F newimage                    |
| T pdf                   |          | F png                         |
| T codeinjections        |          | F prerollreference            |
| F addbookmarks          |          | F presetsymbol                |

F presetsymbolist  
F processrendering  
F registerdocumentcloseaction  
F registerdocumentopenaction  
F registeredsymbol  
F registerfiguremask  
F registerfigurerange  
F registerpagecloseaction  
F registerpageopenaction  
F registerpattern  
F registersymbol  
F ruleactionbox  
F ruleactiondraw  
F ruleactionfill  
F ruleactionmp  
F ruleactionstroke  
F saveboxresource  
F scanimage  
F setattachmentsupport  
F setautoprefix  
F setencryption  
F setfieldcalculationset  
F setfigurecolorspace  
F setfiguremask  
F setformat  
F setformsmethod  
F setjobcomment  
F setpagetransition  
F settaggingsupport  
F setupviewerlayer  
F setuserdata  
F setxmpfile  
F startactualtext  
F startalternativetext  
F startlayer  
F startunicodetoactualtext  
F startunicodetoactualtextdirect  
F stopactualtext  
F stopalternativetext  
F stoplayer  
F stopunicodetoactualtext  
F stopunicodetoactualtextdirect  
F supportedformats  
F unicodetoactualtext

F useviewerlayer  
F validcompactor  
F validfield  
F validfieldcategory  
F validfieldset  
F vfstartcolor  
F vfstopcolor  
F wrapimage  
S name  
T nodeinjections  
F addtags  
F annotation  
F attachfile  
F changestackedlayer  
F cmykcolor  
F comment  
F destination  
F effect  
F getboxresourcedimensions  
F graycolor  
F injectbitmap  
F insertu3d  
F knockout  
F negative  
F overprint  
F positive  
F reference  
F rgbcolor  
F spotcolor  
F startalternate  
F startlayer  
F startstackedlayer  
F stopalternate  
F stoplayer  
F stopstackedlayer  
F transparency  
F typesetfield  
F useboxresource  
T registrations  
F cmykindexcolor  
F cmykspotcolor  
F getspotcolorreference  
F grayindexcolor  
F grayspotcolor

F `rgbindexcolor`  
F `rgbspotcolor`  
F `spotcolorname`  
F `transparency`  
T `tables`

**registrations**      `table`  
**setencryption**      `function`  
**tables**              `table`  
**writeout**            `function`

## basexx (extra lua)

**decode16** function  
**decode64** function  
**decode85** function  
**decodeLZW** function  
**decodeRL** function

**encode16** function  
**encode64** function  
**encode85** function  
**encodeLZW** function  
**encodeRL** function

## bit32 (context)

**arshift** function  
**band** function  
**bnot** function  
**bor** function  
**btest** function  
**bxor** function

**extract** function  
**lrotate** function  
**lshift** function  
**replace** function  
**rrotate** function  
**rshift** function

## bitset (context)

**asstring** function  
**get** function  
**new** function  
**reset** function

**set** function  
**totalable** function  
**traverse** function  
**wipe** function

## blobs (context)

|                   |          |
|-------------------|----------|
| <b>append</b>     | function |
| <b>dimensions</b> | function |
| <b>dispose</b>    | function |
| <b>new</b>        | function |
| <b>pack</b>       | function |
| <b>strdp</b>      | function |
| <b>strhd</b>      | function |

|                |          |
|----------------|----------|
| <b>strht</b>   | function |
| <b>strwd</b>   | function |
| <b>tohpack</b> | function |
| <b>tonodes</b> | function |
| <b>tovpack</b> | function |
| <b>write</b>   | function |

# boolean (context)

**tocontext** function

**tonumber** function

# buffers (context)

|                       |          |
|-----------------------|----------|
| <b>append</b>         | function |
| <b>assign</b>         | function |
| <b>collectcontent</b> | function |
| <b>empty</b>          | function |
| <b>erase</b>          | function |
| <b>exists</b>         | function |
| <b>get</b>            | function |
| <b>getcontent</b>     | function |
| <b>getctxlua</b>      | function |
| <b>getlines</b>       | function |
| <b>getmkvi</b>        | function |
| <b>gettex</b>         | function |
| <b>loadcontent</b>    | function |

|                        |          |
|------------------------|----------|
| <b>parallel</b>        | table    |
| F define               |          |
| F hassomecontent       |          |
| F next                 |          |
| F place                |          |
| F reset                |          |
| F save                 |          |
| <b>prepend</b>         | function |
| <b>raw</b>             | function |
| <b>run</b>             | function |
| <b>samplefile</b>      | function |
| <b>splitsamplefile</b> | function |
| <b>undent</b>          | function |

# builders (context)

|                        |          |   |                                   |
|------------------------|----------|---|-----------------------------------|
| <b>checkparcontext</b> | function | F start                                 |                                   |
| <b>checksidefloat</b>  | function | F stop                                  |                                   |
| <b>hpack</b>           | table    | F tag                                   |                                   |
| F qualityactions       |          |   | <b>parpassidentifier</b> function |
| F report               |          |   | <b>passnames</b> data table       |
| F show                 |          |   | <b>profiling</b> table            |
| <b>kernel</b>          | table    | F add                                   |                                   |
| F collapsing           |          | F addrivers                             |                                   |
| F hyphenating          |          | F boxlinehandler                        |                                   |
| F kerning              |          | F distance                              |                                   |
| F ligaturing           |          | F fixedprofile                          |                                   |
| F mlisttohtml          |          | F get                                   |                                   |
| <b>paragraphs</b>      | table    | F getrivers                             |                                   |
| T constructors         |          | F list                                  |                                   |
| N attribute            |          | F pagehandler                           |                                   |
| F define               |          | F pagelinehandler                       |                                   |
| F disable              |          | F profilebox                            |                                   |
| F enable               |          | F profilelines                          |                                   |
| F handler              |          | F set                                   |                                   |
| T methods              |          | F setlines                              |                                   |
| F basic                |          | <b>registerpaspasscallback</b> function |                                   |
| F default              |          | <b>vpack</b> table                      |                                   |
| F hpack                |          | F qualityactions                        |                                   |
| F oneline              |          | F report                                |                                   |
| D names                |          | <b>vspacing</b> table                   |                                   |
| D numbers              |          | D categories                            |                                   |
| F set                  |          | F checkstrutdepth                       |                                   |
| F start                |          | F collapsevbox                          |                                   |
| F stop                 |          | T data                                  |                                   |
| T expansion            |          | D map                                   |                                   |
| F trace                |          | D skip                                  |                                   |
| F kepttogether         |          | D snapmethods                           |                                   |
| F registertogether     |          | F definesnapmethod                      |                                   |
| T solutions            |          | B fixed                                 |                                   |
| T splitters            |          | F flushcontributions                    |                                   |
| F define               |          | F forcepageflush                        |                                   |
| F optimize             |          | F forcestrutdepth                       |                                   |
| T registered           |          | F getnofpreviouslines                   |                                   |
| F reset                |          | F inject                                |                                   |
| F set                  |          | F injectdisable                         |                                   |
| F split                |          | F injectnowhite                         |                                   |

F injectpenalty  
F injectskip  
F interceptsamepagecontent  
F pagehandler  
F pageoverflow  
F popatsame  
F pushatsame

F setmap  
F setskip  
F snapbox  
F synchronizepage  
F tocategories  
F tocategory  
F vboxhandler

## byte**map** (context)

|                     |          |
|---------------------|----------|
| <b>bounds</b>       | function |
| <b>clip</b>         | function |
| <b>copy</b>         | function |
| <b>dimensions</b>   | function |
| <b>domain</b>       | function |
| <b>downgrade</b>    | function |
| <b>downsample</b>   | function |
| <b>getbyte</b>      | function |
| <b>getbytes</b>     | function |
| <b>getValue</b>     | function |
| <b>hasbytegray</b>  | function |
| <b>hasbyterange</b> | function |
| <b>hasbytergb</b>   | function |

|                   |          |
|-------------------|----------|
| <b>new</b>        | function |
| <b>newdomain</b>  | function |
| <b>process</b>    | function |
| <b>reduce</b>     | function |
| <b>reset</b>      | function |
| <b>setgray</b>    | function |
| <b>setgrayadd</b> | function |
| <b>setgraymin</b> | function |
| <b>setrgb</b>     | function |
| <b>slicegray</b>  | function |
| <b>slicerange</b> | function |
| <b>slicergb</b>   | function |

## cache (context)

|                             |          |                             |          |
|-----------------------------|----------|-----------------------------|----------|
| <b>base</b>                 | string   | <b>loadcontent</b>          | function |
| <b>collapsecontent</b>      | function | <b>loaddata</b>             | function |
| <b>configfiles</b>          | function | <b>more</b>                 | string   |
| <b>contentstate</b>         | function | <b>savecontent</b>          | function |
| <b>defaults</b>             | table    | <b>savedata</b>             | function |
| <b>getfirstreadablefile</b> | function | <b>setfirstwritablefile</b> | function |
| <b>getreadablepaths</b>     | function | <b>setluanames</b>          | function |
| <b>getwritablepath</b>      | function | <b>treehash</b>             | function |
| <b>hashed</b>               | function | <b>usedpaths</b>            | function |
| <b>is_writable</b>          | function |                             |          |

## callback (basic tex)

|                        |          |                   |                     |
|------------------------|----------|-------------------|---------------------|
| <b>find</b>            | function | <b>list</b>       | function            |
| <b>getindex</b>        | function | <b>names</b>      | function            |
| <b>getoptions</b>      | function | <b>register</b>   | overloaded function |
| <b>getoptionvalues</b> | function | <b>setoptions</b> | function            |
| <b>getstate</b>        | function | <b>setstate</b>   | function            |
| <b>getstatevalues</b>  | function | <b>testonly</b>   | function            |
| <b>known</b>           | function | <b>usage</b>      | function            |

# callbacks (context)

|                       |          |                           |
|-----------------------|----------|---------------------------|
| <b>freeze</b>         | function | N linebreak               |
| <b>functions</b>      | table    | N linebreak_check         |
| F start_page_number   |          | N linebreak_quality       |
| F stop_page_number    |          | N local_box               |
| <b>getcomment</b>     | function | N make_extensible         |
| <b>getstates</b>      | function | N math_rule               |
| <b>known</b>          | function | N missing_character       |
| <b>list</b>           | table    | N mlist_to_hlist          |
| N alignment           |          | N open_data_file          |
| N append_adjust       |          | N packed_vbox             |
| N append_line         |          | N page_boundary           |
| N append_migrate      |          | N paragraph_context       |
| N append_to_vlist     |          | N paragraph_pass          |
| N balance_boundary    |          | N post_linebreak          |
| N balance_check       |          | N pre_dump                |
| N balance_insert      |          | N pre_linebreak           |
| N begin_paragraph     |          | N pre_output              |
| N buildpage           |          | N process_character       |
| N define_font         |          | N process_jobname         |
| N delayed_glue        |          | N quality_font            |
| N find_format_file    |          | N register_extensible     |
| N find_log_file       |          | N show_build              |
| N get_attribute       |          | N show_error_message      |
| N get_math_dictionary |          | N show_loners             |
| N get_noad_class      |          | N show_lua_call           |
| N glyph_run           |          | N show_vsplitt            |
| N handle_overload     |          | N show_warning_message    |
| N handle_uinsert      |          | N show_whatsit            |
| N handle_uleader      |          | N start_file              |
| N hpack               |          | N start_run               |
| N hpack_quality       |          | N stop_file               |
| N hyphenate           |          | N stop_run                |
| N insert_boundary     |          | N tail_append             |
| N insert_check_split  |          | N test_only               |
| N insert_distance     |          | N trace_memory            |
| N insert_par          |          | N vpack                   |
| N intercept_lua_error |          | N vpack_quality           |
| N intercept_tex_error |          | N wrapup_run              |
| N italic_correction   |          | <b>names</b> table        |
| N kerning             |          | <b>optimizer</b> function |
| N ligaturing          |          | <b>optionbits</b> table   |

**optioncodes** table

N direct

N trace

**pop** function

**push** function

**register** function

**report** function

**statebits** table

**statecodes** table

N disabled

N frozen

N fundamental

N private

N selective

N set

N touched

N tracing

# catcodes (context)

**names** data table  
**numbers** data table

**register** function

# characters (context)

|                          |            |                     |
|--------------------------|------------|---------------------|
| <b>addcharacternames</b> | function   | T after_postscript  |
| <b>adobename</b>         | function   | T after_subscript   |
| <b>bidirectional</b>     | data table | T anudatta          |
| <b>blockrange</b>        | function   | T before_half       |
| <b>blocks</b>            | data table | T before_main       |
| <b>can_have_space</b>    | data table | T before_postscript |
| <b>casemap</b>           | table      | T before_subscript  |
| <b>categories</b>        | data table | T below_mark        |
| <b>category</b>          | function   | T consonant         |
| <b>categorytags</b>      | data table | T dependent_vowel   |
| <b>classifiers</b>       | table      | T halant            |
| <b>collapsed</b>         | data table | T independent_vowel |
| <b>combined</b>          | data table | T nukta             |
| <b>contextname</b>       | function   | T post_mark         |
| <b>csletters</b>         | data table | T pre_mark          |
| <b>data</b>              | data table | T ra                |
| <b>decomposed</b>        | data table | T stress_tone_mark  |
| <b>description</b>       | function   | T twopart_mark      |
| <b>descriptions</b>      | data table | T vowel_modifier    |
| <b>detailtags</b>        | data table |                     |
| <b>directions</b>        | table      |                     |
| <b>emoji</b>             | table      |                     |
| F compact                |            |                     |
| F known                  |            |                     |
| F resolve                |            |                     |
| <b>emojized</b>          | function   |                     |
| <b>encodes</b>           | data table |                     |
| <b>entities</b>          | data table |                     |
| <b>fallbacks</b>         | data table |                     |
| <b>filters</b>           | data table |                     |
| <b>fractions</b>         | table      |                     |
| <b>fromnumber</b>        | function   |                     |
| <b>fschars</b>           | data table |                     |
| <b>fscodes</b>           | data table |                     |
| <b>getrange</b>          | function   |                     |
| <b>graphemes</b>         | data table |                     |
| <b>hangul</b>            | data table |                     |
| <b>indicgroups</b>       | table      |                     |
| T above_mark             |            |                     |
| T after_half             |            |                     |
| T after_main             |            |                     |
| <b>initialize</b>        | function   |                     |
| <b>is_character</b>      | data table |                     |
| <b>is_command</b>        | data table |                     |
| <b>is_hyphenator</b>     | data table |                     |
| <b>is_letter</b>         | data table |                     |
| <b>is_mark</b>           | data table |                     |
| <b>is_nothing</b>        | data table |                     |
| <b>is_punctuation</b>    | data table |                     |
| <b>is_spacing</b>        | data table |                     |
| <b>is_symbol</b>         | data table |                     |
| <b>lcchars</b>           | data table |                     |
| <b>lccode</b>            | function   |                     |
| <b>lccodes</b>           | data table |                     |
| <b>lettered</b>          | function   |                     |
| <b>lhash</b>             | data table |                     |
| <b>linebreaks</b>        | data table |                     |
| <b>lower</b>             | function   |                     |
| <b>mathlists</b>         | data table |                     |
| <b>mirrors</b>           | table      |                     |
| <b>otfscripts</b>        | data table |                     |
| <b>ranges</b>            | data table |                     |
| <b>registerentities</b>  | function   |                     |

|                             |            |                     |            |
|-----------------------------|------------|---------------------|------------|
| <b>remap_hangul_syllabe</b> | function   | <b>tex</b>          | table      |
| <b>scripthash</b>           | table      | D accentmapping     |            |
| <b>setactivecatcodes</b>    | function   | D commandmapping    |            |
| <b>setlettercatcodes</b>    | function   | F defineaccents     |            |
| <b>setothercatcodes</b>     | function   | F safechar          |            |
| <b>shape</b>                | function   | F strtextoutf       |            |
| <b>shaped</b>               | function   | F strtoutfpattern   |            |
| <b>shash</b>                | data table | F toutf             |            |
| <b>shchars</b>              | data table | F toutfpattern      |            |
| <b>shcodes</b>              | data table | <b>textclasses</b>  | table      |
| <b>showstring</b>           | function   | <b>tonumber</b>     | function   |
| <b>specialchars</b>         | data table | <b>ucchars</b>      | data table |
| <b>specials</b>             | data table | <b>uccode</b>       | function   |
| <b>splits</b>               | table      | <b>uccodes</b>      | data table |
| T char                      |            | <b>uhash</b>        | data table |
| T compat                    |            | <b>unicodechar</b>  | function   |
| <b>subscripts</b>           | table      | <b>upper</b>        | function   |
| <b>superscripts</b>         | table      | <b>verbosemarks</b> | data table |
| <b>synonyms</b>             | data table |                     |            |

# chemistry (context)

|                       |            |            |
|-----------------------|------------|------------|
| <b>component</b>      | function   | S line     |
| <b>define</b>         | function   | S lrn      |
| <b>definitions</b>    | data table | S lrt      |
| <b>format</b>         | string     | S mark     |
| <b>inlinechemical</b> | function   | S mir      |
| <b>instance</b>       | string     | S mov      |
| <b>method</b>         | string     | S move     |
| <b>molecule</b>       | function   | S number   |
| <b>moleculeparser</b> | userdata   | S oe       |
| <b>start</b>          | function   | S off      |
| <b>stop</b>           | function   | S r        |
| <b>syntax</b>         | table      | S rb       |
| T alkyl               |            | S rbd      |
| S category            |            | S rd       |
| T keys                |            | S rdb      |
| S ad                  |            | S rdd      |
| S adj                 |            | S rh       |
| S arrow               |            | S rm       |
| S au                  |            | S rn       |
| S b                   |            | S rot      |
| S bb                  |            | S rrn      |
| S bd                  |            | S rrt      |
| S bw                  |            | S rt       |
| S c                   |            | S rz       |
| S cc                  |            | S sb       |
| S ccd                 |            | S sd       |
| S cd                  |            | S sr       |
| S cz                  |            | S sub      |
| S dash                |            | S tb       |
| S db                  |            | S z        |
| S diff                |            | S zln      |
| S dir                 |            | S zlt      |
| S dr                  |            | S zn       |
| S ed                  |            | S zrn      |
| S ep                  |            | S zrt      |
| S es                  |            | S zt       |
| S et                  |            | S keyword  |
| S hb                  |            | N max      |
| S label               |            | T boat     |
| S ldb                 |            | S category |
| S ldd                 |            | T keys     |

|          |                |
|----------|----------------|
| S adj    | S rt           |
| S arrow  | S rz           |
| S b      | S sb           |
| S bb     | S sr           |
| S c      | S sub          |
| S cc     | S z            |
| S ccd    | S zln          |
| S cd     | S zlt          |
| S dash   | S zn           |
| S diff   | S zrn          |
| S eb     | S zrt          |
| S label  | S zt           |
| S line   | S keyword      |
| S lr     | N max          |
| S lrb    | T carbon       |
| S lrbd   | S category     |
| S lrd    | S keyword      |
| S lrh    | N max          |
| S lrn    | T chair        |
| S lrt    | S category     |
| S lrz    | S keyword      |
| S lsr    | N max          |
| S lsub   | T chem         |
| S mark   | N arguments    |
| S mov    | F direct       |
| S move   | T closecomplex |
| S number | S direct       |
| S off    | T eight        |
| S r      | S category     |
| S rb     | T keys         |
| S rbd    | S ad           |
| S rd     | S adj          |
| S rh     | S arrow        |
| S rn     | S au           |
| S rr     | S b            |
| S rrb    | S c            |
| S rrbd   | S cc           |
| S rrd    | S ccd          |
| S rrh    | S cd           |
| S rrn    | S crz          |
| S rrt    | S dash         |
| S rrz    | S db           |
| S rsr    | S diff         |
| S rsub   | S dr           |

|          |                 |
|----------|-----------------|
| S eb     | S rz            |
| S ed     | S s             |
| S er     | S sb            |
| S hb     | S sr            |
| S label  | S ss            |
| S line   | S sub           |
| S lr     | S z             |
| S lrb    | S zln           |
| S lrbd   | S zlt           |
| S lrd    | S zn            |
| S lrh    | S zrn           |
| S lrn    | S zrt           |
| S lrt    | S zt            |
| S lrz    | S keyword       |
| S lsr    | N max           |
| S lsub   | T equals        |
| S mark   | S direct        |
| S mid    | T equilibrium   |
| S mids   | N arguments     |
| S midz   | F direct        |
| S mir    | T five          |
| S mov    | S category      |
| S move   | S keyword       |
| S number | N max           |
| S off    | T fivefront     |
| S r      | S category      |
| S rb     | S keyword       |
| S rbd    | N max           |
| S rd     | T four          |
| S rh     | S category      |
| S rm     | S keyword       |
| S rn     | N max           |
| S rot    | T gives         |
| S rr     | N arguments     |
| S rrb    | F direct        |
| S rrbd   | T mesomeric     |
| S rrd    | N arguments     |
| S rrh    | F direct        |
| S rrn    | T minus         |
| S rrt    | S direct        |
| S rrz    | T mp            |
| S rsr    | N arguments     |
| S rsub   | F direct        |
| S rt     | T newmanclipsed |

|                 |                 |          |
|-----------------|-----------------|----------|
| S category      | S direct        |          |
| S keyword       | T restore       |          |
| N max           | S direct        |          |
| T newmanstagger | T save          |          |
| S category      | S direct        |          |
| S keyword       | T seven         |          |
| N max           | S category      |          |
| T nine          | S keyword       |          |
| S category      | N max           |          |
| S keyword       | T six           |          |
| N max           | S category      |          |
| T one           | S keyword       |          |
| S category      | N max           |          |
| S keyword       | T sixfront      |          |
| N max           | S category      |          |
| T opencomplex   | S keyword       |          |
| S direct        | N max           |          |
| T pb            | T space         |          |
| S direct        | S direct        |          |
| T pe            | T three         |          |
| S direct        | S category      |          |
| T plus          | S keyword       |          |
| S direct        | N max           |          |
| T reset         | <b>undefine</b> | function |

## containers (context)

**cleanname** function  
**content** function  
**define** function  
**is\_usable** function

**is\_valid** function  
**read** function  
**usecache** boolean  
**write** function

## converters (context)

|                            |          |                            |            |
|----------------------------|----------|----------------------------|------------|
| <b>A</b>                   | function | <b>cn-a</b>                | function   |
| <b>A:es</b>                | function | <b>cn-c</b>                | function   |
| <b>A:ru</b>                | function | <b>cn-d</b>                | function   |
| <b>A:sl</b>                | function | <b>convert</b>             | function   |
| <b>AK</b>                  | function | <b>decimals</b>            | function   |
| <b>Alphabetic</b>          | function | <b>define</b>              | function   |
| <b>Alphabetic:es</b>       | function | <b>gregorian_to_hebrew</b> | function   |
| <b>Alphabetic:ru</b>       | function | <b>gregorian_to_jalali</b> | function   |
| <b>Alphabetic:sl</b>       | function | <b>hebrewnumerals</b>      | function   |
| <b>Character</b>           | function | <b>helpers</b>             | table      |
| <b>Characters</b>          | function | <b>hexstringtonumber</b>   | function   |
| <b>I</b>                   | function | <b>i</b>                   | function   |
| <b>KA</b>                  | function | <b>isleapyear</b>          | function   |
| <b>KR</b>                  | function | <b>jalali_to_gregorian</b> | function   |
| <b>R</b>                   | function | <b>lchexnumber</b>         | function   |
| <b>RK</b>                  | function | <b>lchexnumbers</b>        | function   |
| <b>Romannumerals</b>       | function | <b>leapyear</b>            | function   |
| <b>Russiannumerals</b>     | function | <b>lower</b>               | function   |
| <b>Sloveniannumerals</b>   | function | <b>max</b>                 | function   |
| <b>Spanishnumerals</b>     | function | <b>maxchrs</b>             | function   |
| <b>Word</b>                | function | <b>nicenumber</b>          | function   |
| <b>Words</b>               | function | <b>nofdays</b>             | function   |
| <b>a</b>                   | function | <b>number</b>              | function   |
| <b>a:es</b>                | function | <b>numbers</b>             | function   |
| <b>a:ru</b>                | function | <b>octnumber</b>           | function   |
| <b>a:sl</b>                | function | <b>octstringtonumber</b>   | function   |
| <b>abjadnodotnumerals</b>  | function | <b>ordinal</b>             | function   |
| <b>abjadnumerals</b>       | function | <b>r</b>                   | function   |
| <b>alphabetic</b>          | function | <b>romannumerals</b>       | function   |
| <b>alphabetic:es</b>       | function | <b>russiannumerals</b>     | function   |
| <b>alphabetic:ru</b>       | function | <b>sequences</b>           | data table |
| <b>alphabetic:sl</b>       | function | <b>settime</b>             | function   |
| <b>character</b>           | function | <b>sloveniannumerals</b>   | function   |
| <b>characters</b>          | function | <b>spaceddigits</b>        | function   |
| <b>chineseallnumerals</b>  | function | <b>spanishnumerals</b>     | function   |
| <b>chinesecapnumerals</b>  | function | <b>textime</b>             | function   |
| <b>chinesedatenumerals</b> | function | <b>toabjad</b>             | function   |
| <b>chinesenumerals</b>     | function | <b>tochinese</b>           | function   |
| <b>chr</b>                 | function | <b>tohebrew</b>            | function   |
| <b>chrs</b>                | function | <b>toroman</b>             | function   |
| <b>cn</b>                  | function | <b>totime</b>              | function   |

**uchexnumber**  
**uchexnumbers**  
**upper**  
**verbose**

D data

function  
function  
function  
table

F translate

**weekday**  
**word**  
**words**

function  
function  
function

## coroutine (basic lua)

**close**        function  
**create**      function  
**isyieldable** function  
**resume**      function

**running**     function  
**status**      function  
**wrap**        function  
**yield**        function

# ctxrunner (context)

**load** function  
**preparedfile** function

**prepfileresolve** data table  
**resolve** function

## debug (basic lua)

**getinfo** function  
**sethook** function

**traceback** function

## dir (context)

|                       |          |
|-----------------------|----------|
| <b>collectpattern</b> | function |
| <b>current</b>        | function |
| <b>expandlink</b>     | function |
| <b>expandname</b>     | function |
| <b>found</b>          | function |
| <b>glob</b>           | function |
| <b>globdirs</b>       | function |

|                    |          |
|--------------------|----------|
| <b>globfiles</b>   | function |
| <b>globpattern</b> | function |
| <b>ls</b>          | function |
| <b>makedirs</b>    | function |
| <b>mkdirs</b>      | function |
| <b>pop</b>         | function |
| <b>push</b>        | function |

## directives (context)

**data** data table  
**default** function  
**disable** function  
**done** table  
**enable** function  
**list** function  
**name** string

**register** function  
**report** function  
**reset** function  
**show** function  
**value** function  
**values** function

# document (context)

|                            |            |                              |            |
|----------------------------|------------|------------------------------|------------|
| <b>arguments</b>           | data table | <b>pdf_cleanup_procsets</b>  | function   |
| <b>files</b>               | table      | <b>pdf_identify_content</b>  | function   |
| <b>functions</b>           | table      | <b>pdf_serialize_content</b> | function   |
| <b>getargument</b>         | function   | <b>pdf_strip_content</b>     | function   |
| <b>getfilename</b>         | function   | <b>pdf_strip_page</b>        | function   |
| <b>options</b>             | table      | <b>setargument</b>           | function   |
| T commandline              |            | <b>setcommandline</b>        | function   |
| D environments             |            | <b>setdefaultargument</b>    | function   |
| D modes                    |            | <b>setenvironments</b>       | function   |
| D modules                  |            | <b>setfilename</b>           | function   |
| T ctxfile                  |            | <b>setfilenames</b>          | function   |
| D environments             |            | <b>setmodes</b>              | function   |
| D modes                    |            | <b>setmodules</b>            | function   |
| D modules                  |            | <b>variables</b>             | data table |
| <b>pdf_cleanup_cidsets</b> | function   |                              |            |

# documentdata (context)

**variable** function

# drivers (context)

|                         |          |                   |
|-------------------------|----------|-------------------|
| <b>applyanchor</b>      | function | F rule            |
| <b>applyorientation</b> | function | F simplerule      |
| <b>convert</b>          | function | F specialrule     |
| <b>converters</b>       | table    | F updatefontstate |
| F analyze               |          | T whatsit         |
| F engine                |          | S name            |
| F lmtx                  |          | T json            |
| F resyncbox             |          | T actions         |
| <b>enable</b>           | function | F cleanup         |
| <b>finalize</b>         | function | F convert         |
| <b>gethpos</b>          | function | F finalize        |
| <b>gethrpos</b>         | function | F initialize      |
| <b>getpos</b>           | function | F outputfilename  |
| <b>getrpos</b>          | function | F prepare         |
| <b>getvpos</b>          | function | F wrapup          |
| <b>helpers</b>          | table    | T flushers        |
| <b>initialize</b>       | function | F character       |
| <b>install</b>          | function | F popleaderlevel  |
| <b>instances</b>        | table    | F pushleaderlevel |
| T empty                 |          | F rule            |
| T actions               |          | F setstate        |
| F convert               |          | F simplerule      |
| F prepare               |          | F specialrule     |
| T flushers              |          | F updatefontstate |
| F popleaderlevel        |          | T whatsit         |
| F pushleaderlevel       |          | S name            |
| T whatsit               |          | T lua             |
| S name                  |          | T actions         |
| T js                    |          | F cleanup         |
| T actions               |          | F convert         |
| F cleanup               |          | F finalize        |
| F convert               |          | F initialize      |
| F finalize              |          | F outputfilename  |
| F initialize            |          | F prepare         |
| F outputfilename        |          | F wrapup          |
| F prepare               |          | T flushers        |
| F wrapup                |          | F character       |
| T flushers              |          | F popleaderlevel  |
| F character             |          | F pushleaderlevel |
| F popleaderlevel        |          | F rule            |
| F pushleaderlevel       |          | F simplerule      |

|                   |                       |          |
|-------------------|-----------------------|----------|
| F specialrule     | T actions             |          |
| F updatefontstate | F cleanup             |          |
| T whatsit         | F convert             |          |
| S name            | F finalize            |          |
| T mpo             | F initialize          |          |
| T actions         | F outputfilename      |          |
| F finalize        | F prepare             |          |
| F initialize      | F wrapup              |          |
| T flushers        | T flushers            |          |
| F character       | F character           |          |
| F popleaderlevel  | F flushimage          |          |
| F pushleaderlevel | F fontchar            |          |
| F rule            | F group               |          |
| F simplerule      | F literal             |          |
| F specialrule     | F popgroup            |          |
| T whatsit         | F popleaderlevel      |          |
| S name            | F poporientation      |          |
| T mps             | F pushgroup           |          |
| T actions         | F pushleaderlevel     |          |
| F cleanup         | F pushorientation     |          |
| F convert         | F restore             |          |
| F finalize        | F rule                |          |
| F initialize      | F save                |          |
| F outputfilename  | F setmatrix           |          |
| F prepare         | F setstate            |          |
| F wrapup          | F simplerule          |          |
| T flushers        | F space               |          |
| F character       | F specialrule         |          |
| F popleaderlevel  | F startclipping       |          |
| F pushleaderlevel | F startmatrix         |          |
| F rule            | F startmirroring      |          |
| F simplerule      | F startrotation       |          |
| F specialrule     | F startscaling        |          |
| F updatefontstate | F stopclipping        |          |
| T whatsit         | F stopmatrix          |          |
| S name            | F stopmirroring       |          |
| T none            | F stoprotation        |          |
| T actions         | F stopscaling         |          |
| T flushers        | F updatefontstate     |          |
| F popleaderlevel  | T whatsit             |          |
| F pushleaderlevel | S name                |          |
| T whatsit         | <b>lmtxversion</b>    | number   |
| S name            | <b>outputfilename</b> | function |
| T pdf             | <b>report</b>         | function |

## effects (context)

**getoctaveloops**    function  
**getoctavemethods**    function  
**getoctavestatus**    function  
**getoctavevariants**    function  
**newoctave**    function  
**octave**    function

**octavebytemap**    function  
**perlinnoise**    function  
**simplexangle**    function  
**simplexdetail**    function  
**simplexnoise**    function  
**stepoctave**    function

# environment (context)

|                            |            |                               |            |
|----------------------------|------------|-------------------------------|------------|
| <b>argument</b>            | function   | <b>luafilechunk</b>           | function   |
| <b>arguments</b>           | data table | <b>luatexengine</b>           | string     |
| <b>basicengines</b>        | data table | <b>luatexfunctionality</b>    | number     |
| <b>currentrun</b>          | number     | <b>luatexverbose</b>          | string     |
| <b>definefilefallback</b>  | function   | <b>luatexversion</b>          | number     |
| <b>definefilesynonym</b>   | function   | <b>maxnofruns</b>             | number     |
| <b>engineflags</b>         | data table | <b>oldhome</b>                | string     |
| <b>filename</b>            | string     | <b>originalarguments</b>      | data table |
| <b>filenames</b>           | table      | <b>outputfilename</b>         | string     |
| <b>files</b>               | table      | <b>ownbin</b>                 | string     |
| <b>filesynonyms</b>        | data table | <b>ownmain</b>                | string     |
| <b>forcedruns</b>          | number     | <b>ownname</b>                | string     |
| <b>getargument</b>         | function   | <b>ownpath</b>                | string     |
| <b>globfiles</b>           | function   | <b>prerollrun</b>             | boolean    |
| <b>homedir</b>             | string     | <b>rawarguments</b>           | data table |
| <b>initex</b>              | boolean    | <b>reconstructcommandline</b> | function   |
| <b>initexmode</b>          | boolean    | <b>relativepath</b>           | function   |
| <b>initializearguments</b> | function   | <b>setargument</b>            | function   |
| <b>initializefilenames</b> | function   | <b>splitarguments</b>         | function   |
| <b>inputfilebarename</b>   | string     | <b>suffix</b>                 | string     |
| <b>inputfilename</b>       | string     | <b>texfile</b>                | function   |
| <b>inputfilesuffix</b>     | string     | <b>texmfos</b>                | string     |
| <b>jobfilefullname</b>     | string     | <b>texos</b>                  | string     |
| <b>jobfilename</b>         | string     | <b>texroot</b>                | string     |
| <b>jobfilesuffix</b>       | string     | <b>truefilename</b>           | function   |
| <b>kindofrun</b>           | number     | <b>uselua module</b>          | function   |
| <b>lmtxmode</b>            | number     | <b>usemodules</b>             | function   |
| <b>loadexamodes</b>        | function   | <b>validengines</b>           | data table |
| <b>loadluafile</b>         | function   | <b>version</b>                | string     |
| <b>luafile</b>             | function   |                               |            |

## experiments (context)

|                |            |
|----------------|------------|
| <b>data</b>    | data table |
| <b>default</b> | function   |
| <b>disable</b> | function   |
| <b>enable</b>  | function   |
| <b>list</b>    | function   |
| <b>name</b>    | string     |

|                 |          |
|-----------------|----------|
| <b>register</b> | function |
| <b>report</b>   | function |
| <b>reset</b>    | function |
| <b>show</b>     | function |
| <b>value</b>    | function |
| <b>values</b>   | function |

# figures (context)

|                        |            |                        |            |
|------------------------|------------|------------------------|------------|
| <b>applyratio</b>      | function   | F resetdata            |            |
| <b>badname</b>         | function   | F resetstore           |            |
| <b>bases</b>           | data table | F scan                 |            |
| <b>bitmapimage</b>     | function   | F serialize            |            |
| <b>boxnumber</b>       | number     | T sizes                |            |
| <b>bytepalette</b>     | function   | B art                  |            |
| <b>cachepaths</b>      | data table | B bleed                |            |
| <b>check</b>           | function   | B crop                 |            |
| <b>checkers</b>        | data table | B media                |            |
| <b>conversions</b>     | data table | B none                 |            |
| <b>converters</b>      | data table | B trim                 |            |
| <b>current</b>         | function   | F storedata            |            |
| <b>defaultdepth</b>    | number     | F totable              |            |
| <b>defaultheight</b>   | number     | T types                |            |
| <b>defaultsearch</b>   | boolean    | N jbig2                |            |
| <b>defaultwidth</b>    | number     | N jp2                  |            |
| <b>done</b>            | function   | N jpg                  |            |
| <b>dummy</b>           | function   | N none                 |            |
| <b>exists</b>          | data table | N pdf                  |            |
| <b>exists</b>          | function   | N png                  |            |
| <b>formats</b>         | data table | N stream               |            |
| <b>found</b>           | data table | F wrap                 |            |
| <b>get</b>             | function   | <b>include</b>         | function   |
| <b>getinfo</b>         | function   | <b>includers</b>       | data table |
| <b>getpdfinfo</b>      | function   | <b>initialize</b>      | function   |
| <b>getrealpage</b>     | function   | <b>loaded</b>          | data table |
| <b>guess</b>           | function   | <b>localpaths</b>      | data table |
| <b>guessfromstring</b> | function   | <b>magics</b>          | data table |
| <b>hash</b>            | function   | <b>mergegoodies</b>    | function   |
| <b>identifiers</b>     | data table | <b>nofmissing</b>      | number     |
| <b>identify</b>        | function   | <b>nofprocessed</b>    | number     |
| <b>images</b>          | table      | <b>order</b>           | data table |
| F check                |            | <b>palettes</b>        | table      |
| F checksize            |            | <b>paths</b>           | data table |
| F copy                 |            | <b>patterns</b>        | data table |
| F create               |            | <b>pop</b>             | function   |
| F embed                |            | <b>preferquality</b>   | boolean    |
| F embedfromstore       |            | <b>programs</b>        | data table |
| F fetchdata            |            | <b>push</b>            | function   |
| T keys                 |            | <b>qrcode</b>          | function   |
| F print                |            | <b>registerpattern</b> | function   |

|                         |            |                      |            |
|-------------------------|------------|----------------------|------------|
| <b>registerresource</b> | function   | <b>setconversion</b> | function   |
| <b>registersuffix</b>   | function   | <b>setlookups</b>    | function   |
| <b>remappers</b>        | data table | <b>setorder</b>      | function   |
| <b>resources</b>        | data table | <b>setpaths</b>      | function   |
| <b>scale</b>            | function   | <b>suffixes</b>      | data table |
| <b>set</b>              | function   | <b>used</b>          | data table |

## file (basic lua)

|                          |          |                      |          |
|--------------------------|----------|----------------------|----------|
| <b>addsuffix</b>         | function | <b>needsupdating</b> | function |
| <b>basename</b>          | function | <b>pathpart</b>      | function |
| <b>checksum</b>          | function | <b>readdata</b>      | function |
| <b>collapsepath</b>      | function | <b>removesuffix</b>  | function |
| <b>copy</b>              | function | <b>replacesuffix</b> | function |
| <b>dirname</b>           | function | <b>reslash</b>       | function |
| <b>expandname</b>        | function | <b>robustname</b>    | function |
| <b>extname</b>           | function | <b>savechecksum</b>  | function |
| <b>is_qualified_path</b> | function | <b>savedata</b>      | function |
| <b>is_readable</b>       | function | <b>size</b>          | function |
| <b>is_rootbased_path</b> | function | <b>splitbase</b>     | function |
| <b>is_writable</b>       | function | <b>splitname</b>     | function |
| <b>isreadable</b>        | function | <b>splitpath</b>     | function |
| <b>iswritable</b>        | function | <b>suffix</b>        | function |
| <b>join</b>              | function | <b>suffixes</b>      | function |
| <b>joinpath</b>          | function | <b>suffixesonly</b>  | function |
| <b>loadchecksum</b>      | function | <b>suffixonly</b>    | function |
| <b>nameonly</b>          | function | <b>syncmtimes</b>    | function |
| <b>nametotable</b>       | function | <b>withinbase</b>    | function |
| <b>needs Updating</b>    | function |                      |          |

## fio (extra lua)

|                          |          |                         |          |
|--------------------------|----------|-------------------------|----------|
| <b>getposition</b>       | function | <b>readinteger1le</b>   | function |
| <b>read2dot14</b>        | function | <b>readinteger2</b>     | function |
| <b>readbytes</b>         | function | <b>readinteger2le</b>   | function |
| <b>readbytetable</b>     | function | <b>readinteger3</b>     | function |
| <b>readcardinal1</b>     | function | <b>readinteger3le</b>   | function |
| <b>readcardinal1le</b>   | function | <b>readinteger4</b>     | function |
| <b>readcardinal2</b>     | function | <b>readinteger4le</b>   | function |
| <b>readcardinal2le</b>   | function | <b>readintegertable</b> | function |
| <b>readcardinal3</b>     | function | <b>setposition</b>      | function |
| <b>readcardinal3le</b>   | function | <b>skipposition</b>     | function |
| <b>readcardinal4</b>     | function | <b>writecardinal1</b>   | function |
| <b>readcardinal4le</b>   | function | <b>writecardinal1le</b> | function |
| <b>readcardinaltable</b> | function | <b>writecardinal2</b>   | function |
| <b>readcline</b>         | function | <b>writecardinal2le</b> | function |
| <b>readcstring</b>       | function | <b>writecardinal3</b>   | function |
| <b>readdouble</b>        | function | <b>writecardinal3le</b> | function |
| <b>readdoublele</b>      | function | <b>writecardinal4</b>   | function |
| <b>readfixed2</b>        | function | <b>writecardinal4le</b> | function |
| <b>readfixed4</b>        | function | <b>writedouble</b>      | function |
| <b>readfloat</b>         | function | <b>writedoublele</b>    | function |
| <b>readfloatle</b>       | function | <b>writefloat</b>       | function |
| <b>readinteger1</b>      | function | <b>writefloatle</b>     | function |

## floats (context)

|                         |          |
|-------------------------|----------|
| <b>analysemethod</b>    | function |
| <b>checkedpagefloat</b> | function |
| <b>collect</b>          | function |
| <b>consult</b>          | function |
| <b>flush</b>            | function |
| <b>getvariable</b>      | function |
| <b>hasstacked</b>       | function |

|                   |          |
|-------------------|----------|
| <b>nofstacked</b> | function |
| <b>pop</b>        | function |
| <b>push</b>       | function |
| <b>resave</b>     | function |
| <b>save</b>       | function |
| <b>stacked</b>    | function |

## font (basic tex)

|                               |          |                               |          |
|-------------------------------|----------|-------------------------------|----------|
| <b>addcharacters</b>          | function | <b>getmathspec</b>            | function |
| <b>addquality</b>             | function | <b>getparameterfields</b>     | function |
| <b>current</b>                | function | <b>gettextcharacterfields</b> | function |
| <b>define</b>                 | function | <b>id</b>                     | function |
| <b>getfont</b>                | function | <b>max</b>                    | function |
| <b>getfontdimen</b>           | function | <b>nextid</b>                 | function |
| <b>getfontfields</b>          | function | <b>setfont</b>                | function |
| <b>getfontspec</b>            | function | <b>setfontdimen</b>           | function |
| <b>getmathcharacterfields</b> | function | <b>xscaled</b>                | function |
| <b>getmathindex</b>           | function | <b>yscaled</b>                | function |

# fonts (context)

## **analyzers** table

- D features
- D initializers
- D methods
- F setstate
- D states
- B useunicodemarks

## **callbacks** table

- F compile
- F devirtualize

## **checkers** table

- F getmissing
- D mapping
- F missing
- F placeholder

## **cid** table

- F getmap
- F loadfile

## **collections** table

- F checkenabled
- F clonevector
- F define
- T definitions
- F direct
- F found
- F prepare
- F process
- F register
- F registermain
- F report
- F reset
- T rscales
- T vectors

## **constructors** table

- F addcharacters
- F addcoreunicodes
- F aftercopyingcharacters
- F applyfinalizers
- F applymanipulators
- F assignmathparameters
- F beforecopyingcharacters

- F beforepassingfonttotex

- D cache
- F calculatescale
- F checkedfeatures
- F checkedfilename
- F collectprocessors
- F currentfontasfeature

- D designsizes
- F enhanceparameters

- T enhancers

- T afm

- F apply

- F patch

- T patches

- F register

- F report

- F register

- F report

- T otf

- F addfeature

- F apply

- F enhance

- F patch

- T patches

- F register

- F report

- F register

- F report

- T tfm

- F apply

- F patch

- T patches

- F register

- F report

- F register

- F report

- N factor

- T features

- D afm

- D otf

- D tfm

|                            |   |
|----------------------------|---|
| F finalize                 | S defaultbasealternate                              |
| F getfeatureaction         | S defaultnodealternate                              |
| F getmathparameter         | D features  |
| F getprivate               | F featuresinitializer                               |
| T handlers                 | F featuresprocessor                                 |
| T afm                      | T fixers  |
| B autoprefixed             | F getactualtext                                     |
| D cache                    | F getalternate                                      |
| D features                 | F getgsub   |
| F getkern                  | F getkern   |
| T helpdata                 | F getmultiple                                       |
| D bothkerned               | F getstreamhash                                     |
| D leftkerned               | F getsubstitution                                   |
| D ligatures                | T handlers  |
| D rightkerned              | F ctx_camelcasing                                   |
| D texligatures             | F devanagari_remove_joiners                         |
| F load                     | F devanagari_reorder_matras                         |
| T readers                  | F devanagari_reorder_pre_base_reordering_consonants |
| F getinfo                  | F devanagari_reorder_reph                           |
| F loadfont                 | F gpos_context                                      |
| F loadshapes               | F gpos_contextchain                                 |
| F setfeatures              | F gpos_cursive                                      |
| B syncspace                | F gpos_mark2base                                    |
| N version                  | F gpos_mark2ligature                                |
| T otf                      | F gpos_mark2mark                                    |
| F addfeature               | F gpos_pair   |
| F basemodeinitializer      | F gpos_single                                       |
| D cache                    | F gsub_alternate                                    |
| F collectlookups           | F gsub_context                                      |
| T coverup                  | F gsub_contextchain                                 |
| T actions                  | F gsub_ligature                                     |
| F alternate                | F gsub_multiple                                     |
| F chainposition            | F gsub_reversecontextchain                          |
| F chainsubstitution        | F gsub_single                                       |
| F kern                     | F trigger_space_kerns                               |
| F ligature                 | T helpers   |
| F multiple                 | F blockligatures                                    |
| F pair                     | F pardirstate                                       |
| F single                   | F txtfirststate                                     |
| F substitution             | F load  |
| F register                 | F loadoutlinedata                                   |
| S stepkey                  | F loadstreamdata                                    |
| F dataset                  | F modeinitializer                                   |
| F datasetpositionprocessor | D mpscache  |

|                     |                              |
|---------------------|------------------------------|
| D pdfcache          | T gsubhandlers               |
| F plugininitializer | F alternate                  |
| F pluginprocessor   | F chainedcontext             |
| T plugins           | F context                    |
| T text              | F extension                  |
| D pngcache          | F ligature                   |
| B pngenabled        | F multiple                   |
| T readers           | F reversechainedcontextsingl |
| F addunicodetable   | F single                     |
| F avar              | F gvar                       |
| F cbdt              | F head                       |
| F cblc              | T helpers                    |
| F cff               | F axistofactors              |
| F cff2              | F cleanname                  |
| T cffencoder        | F getaxisscale               |
| F checkhash         | F getfactors                 |
| F cmap              | F getscales                  |
| F colr              | F gotodatatable              |
| F compact           | F normalizedaxis             |
| F condense          | T normalizedaxishash         |
| F cpal              | F readvariationdata          |
| F dsig              | F reportskippedtable         |
| F ebdt              | F setvariabledata            |
| F eblc              | F hhea                       |
| F ebsc              | F hmtx                       |
| F expand            | F hvar                       |
| F extend            | F kern                       |
| F fvar              | F loadfont                   |
| F gdef              | F loadshapes                 |
| F getcomponents     | F loca                       |
| F getinfo           | F math                       |
| F glyf              | F maxp                       |
| F gpos              | F mvar                       |
| T gposhandlers      | F name                       |
| F chainedcontext    | F os/2                       |
| F context           | F pack                       |
| F cursive           | F parsecharstrings           |
| F extension         | F post                       |
| F marktobase        | F potracetocff               |
| F marktligature     | F registerextender           |
| F marktmark         | F rehash                     |
| F pair              | F sbix                       |
| F single            | F stat                       |
| F gsub              | T streamreader               |

|                     |                     |
|---------------------|---------------------|
| F close             | F writecardinal1    |
| F getposition       | F writecardinal1le  |
| F getsize           | F writecardinal2    |
| F look              | F writecardinal2le  |
| F open              | F writecardinal3    |
| F read2dot14        | F writecardinal3le  |
| F readbyte          | F writecardinal4    |
| F readbytes         | F writecardinal4le  |
| F readbytetable     | F writeinteger1     |
| F readcardinal      | F writeinteger1le   |
| F readcardinal1     | F writeinteger2     |
| F readcardinal1le   | F writeinteger2le   |
| F readcardinal2     | F writeinteger3     |
| F readcardinal2le   | F writeinteger3le   |
| F readcardinal3     | F writeinteger4     |
| F readcardinal3le   | F writeinteger4le   |
| F readcardinal4     | F writestring       |
| F readcardinal4le   | F stripredundant    |
| F readcardinaltable | F svg               |
| F readchar          | N tableversion      |
| F readcline         | F unifymissing      |
| F readcstring       | F unpack            |
| F readfixed2        | F vhea              |
| F readfixed4        | F vmtx              |
| F readinteger       | F vorg              |
| F readinteger1      | F vvar              |
| F readinteger1le    | F woff2otf          |
| F readinteger2      | F registerpalette   |
| F readinteger2le    | F registerplugin    |
| F readinteger3      | F reorderlookups    |
| F readinteger3le    | F scriptandlanguage |
| F readinteger4      | F setdynamics       |
| F readinteger4le    | F setfeatures       |
| F readintegertable  | T statistics        |
| F readsignedbyte    | D usedfeatures      |
| F readstring        | D svgcache          |
| F readtag           | B svgenabled        |
| F setposition       | T tables            |
| F size              | D baselines         |
| F skip              | D features          |
| F skiplong          | D featuretypes      |
| F skipposition      | D languages         |
| F skipshort         | D scripts           |
| F writebyte         | F texthandler       |

|                   |                       |          |
|-------------------|-----------------------|----------|
| T vectors         | F combine             |          |
| T arab            | T combiner            |          |
| T gpos            | D commands            |          |
| N curs            | D helpers             |          |
| N kern            | D math                |          |
| N mark            | D predefined          |          |
| N mkmk            | N version             |          |
| T gsub            | D whatever            |          |
| N calt            | F hashfeatures        |          |
| N ccmp            | F hashinstance        |          |
| N cswh            | T hashmethods         |          |
| N dlig            | F normal              |          |
| N fina            | F virtual             |          |
| N init            | F initializefeatures  |          |
| N isol            | D loadedfonts         |          |
| N liga            | N noffontsloaded      |          |
| N medi            | N nofsharedfonts      |          |
| N mset            | N nofsharedhashes     |          |
| N rclt            | N nofsharedvectors    |          |
| N rlig            | N privateoffset       |          |
| N version         | D privateslots        |          |
| T pfb             | F readanddefine       |          |
| F filterencoding  | F registerfeature     |          |
| F filtermetadata  | F registerscriptset   |          |
| F loadvector      | F resetfeature        |          |
| N version         | B resolvevirtualtoo   |          |
| T tfm             | F scale               |          |
| D cache           | F scaled              |          |
| D features        | F setfactor           |          |
| N maxnestingdepth | F setfeature          |          |
| N maxnestingsize  | F setmathparameter    |          |
| T readers         | F setname             |          |
| F loadpk          | B sharefonts          |          |
| F loadtfm         | F trytosharefont      |          |
| F loadtfmvf       | N version             |          |
| F loadvf          | <b>current</b>        | function |
| F pktopdf         | <b>currentid</b>      | function |
| F potracetopdf    | <b>definers</b>       | table    |
| F showpk          | F addlookup           |          |
| F reencode        | F analyze             |          |
| F setfeatures     | F applypostprocessors |          |
| N version         | F checkedmode         |          |
| T vf              | F checkedscript       |          |
| T combinations    | S defaultlookup       |          |

- F define
- F getspecification
- F internal
- F loadfont
- F makespecification
- T methods
  - F install
  - D variants
- F read
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- F type1
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- D colorschemes
- T data
  - T common-math.lfg
    - S author
    - S comment
    - S copyright
  - B initialized
  - T mathematics
  - T tweaks
- T presets
  - F addmathkerns
  - F braille
  - F eulertocalligraphic
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  - F pagellaradical
  - F rsfstoscript
  - F rsfsuprighttoscript
  - F scripttocalligraphic
  - F smallldigits
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F xitsarabic  
 S name  
 S version  
 T dejavu-math  
 S author  
 S comment  
 S copyright  
 B initialized  
 T mathematics  
 T alternates  
 T dotless  
 S comment  
 S feature  
 N value  
 T bigslots  
 T parameters  
 N AccentBaseDepth  
 N AccentTopShiftUp  
 N DelimiterDisplayPercent  
 N DelimiterDisplayShortfall  
 N DelimiterPercent  
 N DelimiterShortfall  
 N DisplayOperatorMinHeight  
 N FlattenedAccentTopShiftUp  
 N FractionRuleThickness  
 S PrimeBaselineDropMax  
 S PrimeShiftUp  
 S PrimeShiftUpCramped  
 N SubscriptShiftDown  
 S SubscriptShiftDownWithSuperscript  
 N SuperscriptShiftUp  
 T tweaks  
 T aftercopying  
 S name  
 S version  
 T dejavu-text  
 S author  
 S comment  
 S copyright  
 T extensions  
 B initialized  
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| F checksteps           | T backgrounds         |            |
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| F composecharacters    | F characters          |            |
| F descriptiontoslot    | F descriptions        |            |
| F dimenfactor          | F glyphs              |            |
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| F getcoloredglyphs     | F register            |            |
| F getdigitwidth        | F reportdefinedfonts  |            |
| F getinstancespec      | F reportusedfeatures  |            |
| F getparameters        | <b>mappings</b>       | table      |
| F getprivatecharornode | F addtounicode        |            |
| F getprivatenode       | F fromunicode16       |            |
| F getprivates          | F getentry            |            |
| F getprivateslot       | F loadfile            |            |
| F glyphdimenfactor     | F loadline            |            |
| F hasprivate           | F makenameparser      |            |
| F indextoslot          | D overloads           |            |
| F isprivate            | F reset               |            |
| F mathscriptslots      | F tounicode           |            |
| F name                 | F tounicode16         |            |
| F nametoslot           | F tounicode16sequence |            |
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| F prependcommands      | F baseline            |            |
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| F scalecommands        | F boxtomposition      |            |
| F setboxdirectly       | F draw                |            |
| F setboxglyph          | F fill                |            |
| F setboxglyphs         | F glyph               |            |
| F setdigitwidth        | F maxbounds           |            |
| F setmetaglyph         | F paths               |            |
| F setmetaglyphs        | F widthline           |            |
| D sharedprivates       | F zeroline            |            |
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| B keepnames              |            | F registerfallback        |
| N mathbase               |            | F registerfiles           |
| N mathextrabase          |            | F registerfontalternative |
| N textbase               |            | F registerfontfamily      |
| N textextrabase          |            | F textfallback            |
| <b>protrusions</b>       | data table | F typeface                |
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| F lua                    |            | D contextmerged           |
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| <b>registersanitizer</b> | function   | S language                |
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| F bodyfont               |            | S autolanguage            |
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| F definefallbackfamily   |            | B curs                    |
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| F definefontfamilypreset |            | B mark                    |
| D extras                 |            | B mkmk                    |
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| D fallbacks              |            | N number                  |
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| F fontsynonym            |            | B analyze                 |
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| D methods                |            | B calt                    |
|                          |            | B ccmp                    |

|                 |               |
|-----------------|---------------|
| B clig          | B pres        |
| B curs          | B pstf        |
| B dlig          | B psts        |
| B fina          | B rphf        |
| B init          | S script      |
| B isol          | B vatu        |
| B kern          | T bengali-two |
| S language      | B abvm        |
| B liga          | B abvs        |
| B mark          | B akhn        |
| B medi          | B blwf        |
| B mkmk          | B blwm        |
| S mode          | B blws        |
| N number        | B calt        |
| B rlig          | B cjct        |
| S script        | B dist        |
| T ba            | B half        |
| S language      | B haln        |
| N number        | S indic       |
| S script        | B init        |
| T bandw:overlay | B kern        |
| B ccmp          | S language    |
| B dist          | B locl        |
| N number        | S mode        |
| T bengali-one   | B nukt        |
| B abvm          | N number      |
| B abvs          | B pres        |
| B akhn          | B pstf        |
| B blwf          | B psts        |
| B blwm          | B rphf        |
| B blws          | S script      |
| B calt          | B vatu        |
| B cjct          | T boldened    |
| B dist          | S effect      |
| B half          | N number      |
| B haln          | T boldened-10 |
| S indic         | S effect      |
| B init          | N number      |
| B kern          | T boldened-15 |
| S language      | S effect      |
| B locl          | N number      |
| S mode          | T boldened-20 |
| B nukt          | S effect      |
| N number        | N number      |

|                  |                  |
|------------------|------------------|
| T boldened-25    | B kern           |
| S effect         | B liga           |
| N number         | B mark           |
| T boldened-30    | B mkmk           |
| S effect         | S mode           |
| N number         | N number         |
| T ca             | S script         |
| S language       | S textcontrol    |
| N number         | B wipemath       |
| S script         | T cy             |
| T camelcasing    | S language       |
| B camelcasing    | N number         |
| N number         | S script         |
| T cn             | T cz             |
| S language       | S language       |
| N number         | N number         |
| S script         | S script         |
| T color          | T de             |
| B ccmp           | S language       |
| S color          | N number         |
| B dist           | S script         |
| N number         | T default        |
| T color:bitmap   | S autolanguage   |
| B ccmp           | S autoscript     |
| B dist           | B checkmissing   |
| N number         | B compoundhyphen |
| B sbix           | B curs           |
| T color:overlay  | B itlc           |
| B ccmp           | B kern           |
| B colr           | B liga           |
| B dist           | B mark           |
| N number         | B mkmk           |
| T color:svg      | S mode           |
| B ccmp           | N number         |
| B dist           | S script         |
| N number         | S textcontrol    |
| B svg            | B wipemath       |
| T complete       | T deo            |
| S autolanguage   | S language       |
| S autoscript     | N number         |
| B checkmissing   | S script         |
| B compose        | T devanagari-one |
| B compoundhyphen | B abvm           |
| B curs           | B abvs           |

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|------------------|---------------|
| B akhn           | B rphf        |
| B blwf           | S script      |
| B blwm           | B vatu        |
| B blws           | T dingbats    |
| B calt           | S goodies     |
| B cjct           | S mode        |
| B dist           | N number      |
| B half           | B unicoding   |
| B haln           | T es          |
| S indic          | S language    |
| B kern           | N number      |
| S language       | S script      |
| B locl           | T et          |
| S mode           | S language    |
| B nukt           | N number      |
| N number         | S script      |
| B pres           | T f:fractions |
| B psts           | B frac        |
| B rkrf           | N number      |
| B rphf           | T f:inferiors |
| S script         | N number      |
| B vatu           | B subs        |
| T devanagari-two | T f:kern      |
| B abvm           | B kern        |
| B abvs           | N number      |
| B akhn           | T f:kerns     |
| B blwf           | B kern        |
| B blwm           | N number      |
| B blws           | T f:oldstyle  |
| B calt           | N number      |
| B cjct           | B onum        |
| B dist           | T f:smallcaps |
| B half           | N number      |
| B haln           | B smcp        |
| S indic          | T f:superiors |
| B kern           | N number      |
| S language       | B sups        |
| B locl           | T f:tabular   |
| S mode           | N number      |
| B nukt           | B tnum        |
| N number         | T fi          |
| B pres           | S language    |
| B psts           | N number      |
| B rkrf           | S script      |

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|------------------|----------------|
| T followtext     | B abvs         |
| B liga           | B akhn         |
| N number         | B blwf         |
| T fr             | B blwm         |
| S language       | B blws         |
| N number         | B calt         |
| S script         | B cjct         |
| T fullprotrusion | B dist         |
| N number         | B half         |
| S protrusion     | B haln         |
| T gr             | S indic        |
| S language       | B kern         |
| N number         | S language     |
| S script         | B locl         |
| T grek           | S mode         |
| N number         | B nukt         |
| S script         | N number       |
| T gujarati-one   | B pres         |
| B abvm           | B psts         |
| B abvs           | B rkrf         |
| B akhn           | B rphf         |
| B blwf           | S script       |
| B blwm           | B vatu         |
| B blws           | T gurmukhi-one |
| B calt           | B abvm         |
| B cjct           | B abvs         |
| B dist           | B akhn         |
| B half           | B blwf         |
| B haln           | B blwm         |
| S indic          | B blws         |
| B kern           | B calt         |
| S language       | B cjct         |
| B locl           | B dist         |
| S mode           | B half         |
| B nukt           | B haln         |
| N number         | S indic        |
| B pres           | B kern         |
| B psts           | S language     |
| B rkrf           | B locl         |
| B rphf           | S mode         |
| S script         | B nukt         |
| B vatu           | N number       |
| T gujarati-two   | B pres         |
| B abvm           | B pstf         |

|                |                    |
|----------------|--------------------|
| B psts         | B mark             |
| B rphf         | B medi             |
| S script       | B mkmk             |
| B vatu         | S mode             |
| T gurmukhi-two | N number           |
| B abvm         | B reordercombining |
| B abvs         | B rlig             |
| B akhn         | S script           |
| B blwf         | T hr               |
| B blwm         | S language         |
| B blws         | N number           |
| B calt         | S script           |
| B cjct         | T hu               |
| B dist         | S language         |
| B half         | N number           |
| B haln         | S script           |
| S indic        | T indic-common     |
| B kern         | B abvm             |
| S language     | B abvs             |
| B locl         | B akhn             |
| S mode         | B blwm             |
| B nukt         | B blws             |
| N number       | B calt             |
| B pres         | B dist             |
| B pstf         | B haln             |
| B psts         | S indic            |
| B rphf         | B kern             |
| S script       | S language         |
| B vatu         | B locl             |
| T hebrew       | S mode             |
| B analyze      | B nukt             |
| S autolanguage | N number           |
| S autoscript   | B pres             |
| B calt         | B psts             |
| B ccmp         | B rphf             |
| B clig         | T inlinenumbers    |
| B curs         | N number           |
| B dlig         | B pnum             |
| B fina         | B tnum             |
| B init         | T is               |
| B isol         | S language         |
| B kern         | N number           |
| S language     | S script           |
| B liga         | T it               |

|               |                  |
|---------------|------------------|
| S language    | B akhn           |
| N number      | B blwf           |
| S script      | B blwm           |
| T ja          | B blws           |
| S language    | B calt           |
| N number      | B cjct           |
| S script      | B dist           |
| T jamoforms   | B half           |
| B ljmo        | B haln           |
| N number      | S indic          |
| B tjmo        | B kern           |
| B vjmo        | S language       |
| T just-os     | B locl           |
| S mode        | S mode           |
| N number      | B nukt           |
| B onum        | N number         |
| T kannada-one | B pref           |
| B abvm        | B pres           |
| B abvs        | B pstf           |
| B akhn        | B psts           |
| B blwf        | B rphf           |
| B blwm        | S script         |
| B blws        | T la             |
| B calt        | S language       |
| B cjct        | N number         |
| B dist        | S script         |
| B half        | T latn           |
| B haln        | N number         |
| S indic       | S script         |
| B kern        | T letterspacing  |
| S language    | B ccmp           |
| B locl        | B clig           |
| S mode        | B dlig           |
| B nukt        | S keepligatures  |
| N number      | B liga           |
| B pref        | N number         |
| B pres        | B rlig           |
| B pstf        | T ligatures      |
| B psts        | S autolanguage   |
| B rphf        | S autoscript     |
| S script      | B checkmissing   |
| T kannada-two | B compoundhyphen |
| B abvm        | B curs           |
| B abvs        | B kern           |

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|-----------------|------------------|
| B liga          | B blwm           |
| B mark          | B blws           |
| B mkmk          | B calt           |
| S mode          | B cjct           |
| N number        | B dist           |
| S script        | B half           |
| S textcontrol   | B haln           |
| B wipemath      | S indic          |
| T lm-math-bold  | B kern           |
| S effect        | S language       |
| N number        | B locl           |
| T lowercasing   | S mode           |
| B lowercasing   | B nukt           |
| N number        | N number         |
| T malayalam-one | B pref           |
| B abvm          | B pres           |
| B abvs          | B pstf           |
| B akhn          | B psts           |
| B blwf          | B rphf           |
| B blwm          | S script         |
| B blws          | T math           |
| B calt          | B compactmath    |
| B cjct          | B flattenaccents |
| B dist          | B kern           |
| B half          | S language       |
| B haln          | B mathalternates |
| S indic         | S mathexpansion  |
| B kern          | S mode           |
| S language      | N number         |
| B locl          | S script         |
| S mode          | B ssty           |
| B nukt          | B wipemath       |
| N number        | T math-script    |
| B pref          | B compactmath    |
| B pres          | B flattenaccents |
| B pstf          | B kern           |
| B psts          | S language       |
| B rphf          | B mathalternates |
| S script        | S mathexpansion  |
| T malayalam-two | S mode           |
| B abvm          | N number         |
| B abvs          | S script         |
| B akhn          | N ssty           |
| B blwf          | B wipemath       |

T math-scriptscript  
 B compactmath  
 B flattenaccents  
 B kern  
 S language  
 B mathalternates  
 S mathexpansion  
 S mode  
 N number  
 S script  
 N ssty  
 B wipemath  
 T math-text  
 B compactmath  
 B flattenaccents  
 B kern  
 S language  
 B mathalternates  
 S mathexpansion  
 S mode  
 N number  
 S script  
 B ssty  
 B wipemath  
 T mathematics  
 B compactmath  
 B flattenaccents  
 B kern  
 S language  
 B mathalternates  
 S mathexpansion  
 S mode  
 N number  
 S script  
 B wipemath  
 T mixed  
 T mongolian  
 S autolanguage  
 S autoscript  
 B calt  
 B checkmissing  
 B compoundhyphen  
 B curs  
 B fina

B init  
 B isol  
 B itlc  
 B kern  
 B liga  
 B mark  
 B medi  
 B mkmk  
 S mode  
 B mset  
 N number  
 B rclt  
 B rlig  
 S script  
 S textcontrol  
 B wipemath  
 T nl  
 S language  
 N number  
 S script  
 T none  
 B features  
 S mode  
 N number  
 T oldstyle  
 S autolanguage  
 S autoscript  
 B checkmissing  
 B compoundhyphen  
 B curs  
 B kern  
 B liga  
 B mark  
 B mkmk  
 S mode  
 N number  
 B onum  
 S script  
 S textcontrol  
 B wipemath  
 T oldstylenumbers  
 N number  
 B onum  
 T original

|                  |                  |
|------------------|------------------|
| S autolanguage   | B blws           |
| S autoscript     | B calt           |
| B checkmissing   | B cjct           |
| B compoundhyphen | B dist           |
| B curs           | B haln           |
| B itlc           | S indic          |
| B kern           | B kern           |
| B liga           | S language       |
| B mark           | B locl           |
| B mkmk           | S mode           |
| S mode           | B nukt           |
| N number         | N number         |
| S script         | B pres           |
| S textcontrol    | B pstf           |
| B wipemath       | B psts           |
| T oriya-one      | B rphf           |
| B abvm           | S script         |
| B abvs           | T pl             |
| B akhn           | S language       |
| B blwf           | N number         |
| B blwm           | S script         |
| B blws           | T primes         |
| B calt           | N number         |
| B cjct           | B primes         |
| B dist           | T pt             |
| B haln           | S language       |
| S indic          | N number         |
| B kern           | S script         |
| S language       | T quality        |
| B locl           | S expansion      |
| S mode           | N number         |
| B nukt           | S protrusion     |
| N number         | T recommended    |
| B pres           | S autolanguage   |
| B pstf           | S autoscript     |
| B psts           | B calt           |
| B rphf           | B checkmissing   |
| S script         | B clig           |
| T oriya-two      | B compoundhyphen |
| B abvm           | B curs           |
| B abvs           | B itlc           |
| B akhn           | B kern           |
| B blwf           | B liga           |
| B blwm           | B mark           |

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|--------------------|----------------|
| B mkmk             | B ccmp         |
| S mode             | B curs         |
| N number           | B fina         |
| B rlig             | B init         |
| S script           | B isol         |
| S textcontrol      | B kern         |
| B wipemath         | S language     |
| T reordercombining | B mark         |
| N number           | B medi         |
| B reordercombining | B mkmk         |
| T ro               | S mode         |
| S language         | N number       |
| N number           | B rlig         |
| S script           | T simplearabic |
| T ru               | B analyze      |
| S language         | S autolanguage |
| N number           | S autoscript   |
| S script           | B calt         |
| T semitic-complete | B ccmp         |
| B analyze          | B curs         |
| S autolanguage     | B fina         |
| S autoscript       | B init         |
| B calt             | B isol         |
| B ccmp             | B kern         |
| B clig             | S language     |
| B curs             | B mark         |
| B dlig             | B medi         |
| B fina             | B mkmk         |
| B init             | S mode         |
| B isol             | N number       |
| B kern             | B rlig         |
| S language         | S script       |
| B liga             | T simplehebrew |
| B mark             | B analyze      |
| B medi             | S autolanguage |
| B mkmk             | S autoscript   |
| S mode             | B calt         |
| N number           | B ccmp         |
| B rlig             | B curs         |
| T semitic-simple   | B fina         |
| B analyze          | B init         |
| S autolanguage     | B isol         |
| S autoscript       | B kern         |
| B calt             | S language     |

|                  |                 |
|------------------|-----------------|
| B mark           | B curs          |
| B medi           | B dlig          |
| B mkmk           | B fin2          |
| S mode           | B fin3          |
| N number         | B fina          |
| B rlig           | B init          |
| S script         | B isol          |
| T sk             | B kern          |
| S language       | S language      |
| N number         | B liga          |
| S script         | B mark          |
| T sl             | B med2          |
| S language       | B medi          |
| N number         | B mkmk          |
| S script         | S mode          |
| T slanted        | N number        |
| N number         | B rlig          |
| N slant          | S script        |
| T smallcaps      | T system:tabnum |
| S autolanguage   | B lnum          |
| S autoscript     | N number        |
| B checkmissing   | B tnum          |
| B compoundhyphen | T tabledigits   |
| B curs           | N number        |
| B kern           | B tabledigits   |
| B mark           | B tnum          |
| B mkmk           | T tabulardigits |
| S mode           | N number        |
| N number         | B pnum          |
| S script         | B tnum          |
| B smcp           | T tamil-one     |
| S textcontrol    | B abvm          |
| B wipemath       | B abvs          |
| T sv             | B akhn          |
| S language       | B blwm          |
| N number         | B blws          |
| S script         | B calt          |
| T syriac         | B dist          |
| B analyze        | B half          |
| S autolanguage   | B haln          |
| S autoscript     | S indic         |
| B calt           | B kern          |
| B ccmp           | S language      |
| B clig           | B locl          |

|              |                |
|--------------|----------------|
| S mode       | S language     |
| B nukt       | B locl         |
| N number     | S mode         |
| B pref       | B nukt         |
| B pres       | N number       |
| B psts       | B pref         |
| B rphf       | B pres         |
| S script     | B pstf         |
| T tamil-two  | B psts         |
| B abvm       | B rphf         |
| B abvs       | S script       |
| B akhn       | T telugu-two   |
| B blwm       | B abvm         |
| B blws       | B abvs         |
| B calt       | B akhn         |
| B dist       | B blwf         |
| B half       | B blwm         |
| B haln       | B blws         |
| S indic      | B calt         |
| B kern       | B cjct         |
| S language   | B dist         |
| B locl       | B half         |
| S mode       | B haln         |
| B nukt       | S indic        |
| N number     | B kern         |
| B pref       | S language     |
| B pres       | B locl         |
| B psts       | S mode         |
| B rphf       | B nukt         |
| S script     | N number       |
| T telugu-one | B pref         |
| B abvm       | B pres         |
| B abvs       | B pstf         |
| B akhn       | B psts         |
| B blwf       | B rphf         |
| B blwm       | S script       |
| B blws       | T th           |
| B calt       | S language     |
| B cjct       | N number       |
| B dist       | S script       |
| B half       | T tibetan      |
| B haln       | B abvm         |
| S indic      | B abvs         |
| B kern       | S autolanguage |

|                  |                          |
|------------------|--------------------------|
| S autoscript     | B flattenaccents         |
| B blwm           | B kern                   |
| B blws           | S language               |
| B calt           | B mathalternates         |
| B ccmp           | S mathexpansion          |
| B checkmissing   | S mode                   |
| B compoundhyphen | N number                 |
| B curs           | S script                 |
| B kern           | B wipemath               |
| S language       | T vn                     |
| B liga           | S language               |
| B locl           | N number                 |
| B mark           | S script                 |
| B mkmk           | T zero                   |
| S mode           | N number                 |
| N number         | B zero                   |
| S script         | F showcontext            |
| S textcontrol    | F splitcontext           |
| B wipemath       | D synonyms               |
| T tr             | D variants               |
| S language       | <b>symbols</b> table     |
| N number         | T emoji                  |
| S script         | F checked                |
| T uk             | F resolved               |
| S language       | F uselibrary             |
| N number         | <b>tables</b> table      |
| S script         | <b>toeffect</b> function |
| T uppercasing    | <b>tracers</b> table     |
| N number         | <b>treatments</b> table  |
| B uppercasing    | F applyfixes             |
| T us             | D data                   |
| S language       | S filename               |
| N number         | F ignoredfile            |
| S script         | F report                 |
| T virtualmath    | F trace                  |
| B compactmath    | <b>typefaces</b> table   |

# functions (context)

**dummy** function

# globaldata (context)

|                            |          |                            |
|----------------------------|----------|----------------------------|
| <b>CONTEXTLMTXMODE</b>     | number   | F colorcomponents          |
| <b>LUAFORMAT</b>           | number   | D counts                   |
| <b>LUAMAJORVERSION</b>     | number   | B couple                   |
| <b>LUAMINORVERSION</b>     | number   | F currentmodel             |
| <b>LUATEXENGINE</b>        | string   | F currentnamedmodel        |
| <b>LUATEXFORMATID</b>      | number   | D data                     |
| <b>LUATEXFUNCTIONALITY</b> | number   | N default                  |
| <b>LUATEXVERBOSE</b>       | string   | F defineintermediatecolor  |
| <b>LUATEXVERSION</b>       | number   | F definemultitonecolor     |
| <b>LUAVERSION</b>          | number   | F defineprocesscolor       |
| <b>MP</b>                  | function | F defineprocesscolordirect |
| <b>SAVEDREQUIRE</b>        | function | F definesimplegray         |
| <b>aes</b>                 | table    | F definespotcolor          |
| F decode                   |          | F definetransparency       |
| F encode                   |          | F enable                   |
| F random                   |          | F filter                   |
| <b>arg</b>                 | table    | N forced                   |
| <b>assert</b>              | function | F forcedmodel              |
| <b>attributes</b>          | table    | F forcesupport             |
| T alternates               |          | F formatcolor              |
| N attribute                |          | F formatgray               |
| D data                     |          | F formatluminance          |
| F enable                   |          | F formatluminanceratio     |
| F handler                  |          | F getpagecolormodel        |
| F register                 |          | F gray                     |
| D registered               |          | F graytohsv                |
| D values                   |          | F handler                  |
| F applyoverloads           |          | F hsvtorgb                 |
| F checkvalues              |          | F hsvtorgb                 |
| T colorintents             |          | F hwbtorgb                 |
| N attribute                |          | F iccprofile               |
| D data                     |          | F isblack                  |
| F enable                   |          | F labtolch                 |
| F handler                  |          | F labtorgb                 |
| F register                 |          | F labtoxyz                 |
| D registered               |          | F lchtoab                  |
| T colors                   |          | F lchtorgb                 |
| N attribute                |          | N main                     |
| F cmyk                     |          | S model                    |
| F cmyktorgb                |          | D models                   |
| F cmyktorgb                |          | F mpcolor                  |

|                          |                     |
|--------------------------|---------------------|
| F mnamedcolor            | F handler           |
| F mpoptions              | F register          |
| F mprgbcolor             | D registered        |
| F namedcolorattributes   | D values            |
| N none                   | F getvalue          |
| F popset                 | F getvalues         |
| F processcolorcomponents | T handlers          |
| F pushset                | F hasvalues         |
| F register               | D list              |
| D registered             | F markasoverload    |
| F registerspotcolor      | D names             |
| F rgb                    | T negatives         |
| F rgbbytes               | N attribute         |
| F rgbtocmyk              | D data              |
| F rgbtogray              | F enable            |
| F rgbtohsv               | F handler           |
| F rgbtoxyz               | F register          |
| N selector               | D registered        |
| F setlist                | F set               |
| F setmodel               | D numbers           |
| F setpagecolormodel      | F ofnode            |
| D sets                   | F private           |
| F spec                   | F public            |
| F spot                   | F registervalue     |
| F spotcolorname          | F restore           |
| F spotcolorparent        | F save              |
| F spotcolorvalue         | F setcleaner        |
| B supported              | F showcurrent       |
| F toattributes           | T states            |
| F transparencycomponents | F disabletriggering |
| B triggering             | F enabletriggering  |
| F usecolors              | F finalize          |
| D valid                  | F initialize        |
| F value                  | F process           |
| D values                 | F selective         |
| B weightgray             | F simple            |
| F xyztolab               | F stacked           |
| F xyztorgb               | F stacker           |
| D counts                 | F system            |
| F define                 | F tooverloads       |
| T effects                | T transparencies    |
| N attribute              | N attribute         |
| D data                   | D data              |
| F enable                 | F enable            |

|                          |                    |       |
|--------------------------|--------------------|-------|
| F forcesupport           | D tables           |       |
| F handler                | F getcallbackstate |       |
| N none                   | T included         |       |
| F register               | B context          |       |
| D registered             | B date             |       |
| B supported              | B id               |       |
| F toattribute            | B metadata         |       |
| B triggering             | B pdf              |       |
| F value                  | F initialize       |       |
| D values                 | F latelua          |       |
| N unsetvalue             | T nodeinjections   |       |
| D values                 | F nothing          |       |
| T viewerlayers           | F openout          |       |
| N attribute              | T registered       |       |
| F cleanup                | T registrations    |       |
| D data                   | F setencryption    |       |
| F define                 | T tables           |       |
| F definedlayoutcomponent | F writeout         |       |
| F enable                 | <b>basexx</b>      | table |
| F forcesupport           | F decode16         |       |
| F handler                | F decode64         |       |
| B hasorder               | F decode85         |       |
| D listwise               | F decodeLZW        |       |
| F register               | F decodeRL         |       |
| D registered             | F encode16         |       |
| F resolve_begin          | F encode64         |       |
| F resolve_end            | F encode85         |       |
| F resolve_reset          | F encodeLZW        |       |
| F resolve_step           | F encodeRL         |       |
| D scopes                 | <b>bibtex</b>      | table |
| F setfeatures            | <b>bit32</b>       | table |
| F setup                  | F arshift          |       |
| F start                  | F band             |       |
| F stop                   | F bnot             |       |
| B supported              | F bor              |       |
| D values                 | F btest            |       |
| <b>backends</b>          | F bxor             |       |
| F closeout               | F extract          |       |
| T codeinjections         | F lrotate          |       |
| F registerboxresource    | F lshift           |       |
| F registerfont           | F replace          |       |
| F restoreboxresource     | F rrotate          |       |
| S current                | F rshift           |       |
| T defaults               | <b>bitset</b>      | table |

F asstring  
F get  
F new  
F reset  
F set  
F totable  
F traverse  
F wipe

**blobs** table

F append  
F dimensions  
F dispose  
F new  
F pack  
F strdp  
F strhd  
F strht  
F strwd  
F tohpack  
F tonodes  
F tovpack  
F write

**boolean** table

F tocontext  
F tonumber

**buffers** table

F append  
F assign  
F collectcontent  
F empty  
F erase  
F exists  
F get  
F getcontent  
F getctxlua  
F getlines  
F getmkvi  
F gettex  
F loadcontent  
T parallel  
F define  
F hassomecontent  
F next  
F place

F reset  
F save  
F prepend  
F raw  
F run  
F samplefile  
F splitsamplefile  
F undent

**builders** table

F checkparcontext  
F checksidefloat  
T hpack  
F qualityactions  
F report  
F show  
T kernel  
F collapsing  
F hyphenating  
F kerning  
F ligaturing  
F mlisttohtml  
T paragraphs  
F keeptogether  
F registertogether  
F tag  
F parpassidentifier  
D passnames  
T profiling  
F add  
F addrivers  
F boxlinehandler  
F distance  
F fixedprofile  
F get  
F getrivers  
F list  
F pagehandler  
F pagelinehandler  
F profilebox  
F profilelines  
F set  
F setlines  
F registerpasspasscallback  
T vpack

F qualityactions  
F report  
T vspaceing  
D categories  
F checkstrutdepth  
F collapsevbox  
F definesnapmethod  
B fixed  
F flushcontributions  
F forcepageflush  
F forcestrutdepth  
F getnofpreviouslines  
F inject  
F injectdisable  
F injectnowhite  
F injectpenalty  
F injectskip  
F interceptsamepagecontent  
F pagehandler  
F pageoverflow  
F popatsame  
F pushatsame  
F setmap  
F setskip  
F snapbox  
F synchronizepage  
F tocategories  
F tocategory  
F vboxhandler

**bytemap** table

F bounds  
F clip  
F copy  
F dimensions  
F domain  
F downgrade  
F downsample  
F getbyte  
F getbytes  
F getvalue  
F hasbytegray  
F hasbyterange  
F hasbytergb  
F new

F newdomain  
F process  
F reduce  
F reset  
F setgray  
F setgrayadd  
F setgraymin  
F setrgb  
F slicegray  
F slicerange  
F slicergb

**caches** table

S base  
F collapsecontent  
F configfiles  
F contentstate  
T defaults  
F getfirstreadablefile  
F getreadablepaths  
F getwritablepath  
F hashed  
F is\_writable  
F loadcontent  
F loaddata  
S more  
F savecontent  
F savedata  
F setfirstwritablefile  
F setluanames  
F treehash  
F usedpaths

**callback** table

F find  
F getindex  
F getoptions  
F getoptionvalues  
F getstate  
F getstatevalues  
F known  
F list  
F names  
F register  
F setoptions  
F setstate

|                       |                        |
|-----------------------|------------------------|
| F testonly            | N linebreak            |
| F usage               | N linebreak_check      |
| <b>callbacks</b>      | N linebreak_quality    |
|                       | N local_box            |
| F freeze              | N make_extensible      |
| T functions           | N math_rule            |
| F start_page_number   | N missing_character    |
| F stop_page_number    | N mlist_to_hlist       |
| F getcomment          | N open_data_file       |
| F getstates           | N packed_vbox          |
| F known               | N page_boundary        |
| T list                | N paragraph_context    |
| N alignment           | N paragraph_pass       |
| N append_adjust       | N post_linebreak       |
| N append_line         | N pre_dump             |
| N append_migrate      | N pre_linebreak        |
| N append_to_vlist     | N pre_output           |
| N balance_boundary    | N process_character    |
| N balance_check       | N process_jobname      |
| N balance_insert      | N quality_font         |
| N begin_paragraph     | N register_extensible  |
| N buildpage           | N show_build           |
| N define_font         | N show_error_message   |
| N delayed_glue        | N show_loners          |
| N find_format_file    | N show_lua_call        |
| N find_log_file       | N show_vsplitt         |
| N get_attribute       | N show_warning_message |
| N get_math_dictionary | N show_whatsit         |
| N get_noad_class      | N start_file           |
| N glyph_run           | N start_run            |
| N handle_overload     | N stop_file            |
| N handle_uinsert      | N stop_run             |
| N handle_uleader      | N tail_append          |
| N hpack               | N test_only            |
| N hpack_quality       | N trace_memory         |
| N hyphenate           | N vpack                |
| N insert_boundary     | N vpack_quality        |
| N insert_check_split  | N wrapup_run           |
| N insert_distance     | T names                |
| N insert_par          | F optimizer            |
| N intercept_lua_error | T optionbits           |
| N intercept_tex_error | T optioncodes          |
| N italic_correction   | N direct               |
| N kerning             | N trace                |
| N ligaturing          |                        |

|                      |          |                        |
|----------------------|----------|------------------------|
| F pop                |          | F resolve              |
| F push               |          | F emojiized            |
| F register           |          | D encodes              |
| F report             |          | D entities             |
| T statebits          |          | D fallbacks            |
| T statecodes         |          | D filters              |
| N disabled           |          | T fractions            |
| N frozen             |          | F fromnumber           |
| N fundamental        |          | D fschars              |
| N private            |          | D fscodes              |
| N selective          |          | F getrange             |
| N set                |          | D graphemes            |
| N touched            |          | D hangul               |
| N tracing            |          | T indicgroups          |
| <b>catcodes</b>      | table    | F initialize           |
| D names              |          | D is_character         |
| D numbers            |          | D is_command           |
| F register           |          | D is_hyphenator        |
| <b>characterkern</b> | function | D is_letter            |
| <b>characters</b>    | table    | D is_mark              |
| F addcharacternames  |          | D is_nothing           |
| F adobename          |          | D is_punctuation       |
| D bidi               |          | D is_spacing           |
| F blockrange         |          | D is_symbol            |
| D blocks             |          | D lcchars              |
| D can_have_space     |          | F lccode               |
| T casemap            |          | D lccodes              |
| D categories         |          | F lettered             |
| F category           |          | D lhash                |
| D categorytags       |          | D linebreaks           |
| T classifiers        |          | F lower                |
| D collapsed          |          | D mathlists            |
| D combined           |          | T mirrors              |
| F contextname        |          | D otfscripts           |
| D csletters          |          | D ranges               |
| D data               |          | F registerentities     |
| D decomposed         |          | F remap_hangul_syllabe |
| F description        |          | T scripthash           |
| D descriptions       |          | F setactivecatcodes    |
| D detailtags         |          | F setlettercatcodes    |
| T directions         |          | F setothercatcodes     |
| T emoji              |          | F shape                |
| F compact            |          | F shaped               |
| F known              |          | D shash                |

|                       |                 |                           |
|-----------------------|-----------------|---------------------------|
| D shchars             |                 | F MPLIBconvertfollowtext  |
| D shcodes             |                 | F MPLIBconvertoutlinetext |
| F showstring          |                 | F MPc                     |
| D specialchars        |                 | F MPd                     |
| D specials            |                 | F MPfromhash              |
| T splits              |                 | F MPH                     |
| T subscripts          |                 | F MPLl                    |
| T superscripts        |                 | F MPLr                    |
| D synonyms            |                 | F MPLs                    |
| T tex                 |                 | F MPn                     |
| D accentmapping       |                 | F MPp                     |
| D commandmapping      |                 | F MPpardata               |
| F defineaccents       |                 | F MPplus                  |
| F safechar            |                 | F MPpos                   |
| F strttextoutf        |                 | F MPr                     |
| F strtoutfpattern     |                 | F MPrest                  |
| F toutf               |                 | F MPrs                    |
| F toutfpattern        |                 | F MPUl                    |
| T textclasses         |                 | F MPur                    |
| F tonumber            |                 | F MPw                     |
| D ucchars             |                 | F MPwhd                   |
| F uccode              |                 | F MPx                     |
| D uccodes             |                 | F MPxy                    |
| D uhash               |                 | F MPxywhd                 |
| F unicodechar         |                 | F MPy                     |
| F upper               |                 | F Romannumerals           |
| D verbosemarks        |                 | F actualday               |
| <b>chemistry</b>      | <b>table</b>    | F actualmonth             |
| F component           |                 | F actualyear              |
| F define              |                 | F adaptfontfeature        |
| D definitions         |                 | F adaptivecheckbox        |
| S format              |                 | F addbtxentry             |
| F inlinechemical      |                 | F addcounter              |
| S instance            |                 | F adddefaultsuffix        |
| S method              |                 | F addfeature              |
| F molecule            |                 | F addfontpath             |
| U moleculeparser      |                 | F addgrapheme             |
| F start               |                 | F addlinenumbers          |
| F stop                |                 | F addlinklistelement      |
| T syntax              |                 | F addreplacements         |
| F undefine            |                 | F addreplacementslist     |
| <b>collectgarbage</b> | <b>function</b> | F addrivers               |
| <b>commands</b>       | <b>table</b>    | F addtocolumnset          |
| F Alphabetic          |                 | F addtocolumnsetmvl       |

|                             |                         |
|-----------------------------|-------------------------|
| F addtojavascriptpreamble   | F bitwiseflip           |
| F addtolist                 | F bitwisenil            |
| F align_point_delta         | F bitwisenot            |
| F allinputpaths             | F bitwiseor             |
| F alphabetic                | F bitwiseset            |
| F analysefloatmethod        | F bitwiseshift          |
| F analyzeitemgroup          | F bitwisexor            |
| F analyzelist               | F blockcolumnset        |
| F analyzeloalanchors        | F blockligatures        |
| F analyzeregister           | F boolcase              |
| F analyzerotate             | F boxdir                |
| F analyzeupcomingitemgroup  | F boxline               |
| F applypattern              | F boxlinedp             |
| F applytobox                | F boxlineht             |
| F applytofirstcharacter     | F boxlineil             |
| F arraycompare              | F boxlinein             |
| F arrayequals               | F boxlineir             |
| F arraymaxvalue             | F boxlinelh             |
| F arrayminvalue             | F boxlinelp             |
| F arraysize                 | F boxlinels             |
| F arrayvalue                | F boxlinemaxdp          |
| F ascender                  | F boxlinemaxht          |
| F askedreference            | F boxlinemaxwd          |
| F assignbuffer              | F boxlinend             |
| F async                     | F boxlinenh             |
| F attachinsertion           | F boxlinew              |
| F attachinsertions          | F boxlinerh             |
| F atwordboundary            | F boxlinerp             |
| F autofinishstructurelevels | F boxliners             |
| F autoinsertnextspace       | F boxlines              |
| F automigrationcodestring   | F boxlinewd             |
| F autonextstructurelevel    | F boxoptioncodestring   |
| F autorule                  | F boxrangedp            |
| F autosetups                | F boxrangeht            |
| F autostarttext             | F boxrangewd            |
| F autostoptext              | F boxtostring           |
| F badnessmodecodestring     | F bposcolumn            |
| F balanceshapeextra         | F bposcolumnregistered  |
| F benchmarktimer            | F bs                    |
| F bf                        | F btxabbreviatedjournal |
| F bi                        | F btxaddentry           |
| F bitmapimage               | F btxaddjournal         |
| F bitwise                   | F btxauthor             |
| F bitwiseand                | F btxauthorfield        |

|                             |                              |
|-----------------------------|------------------------------|
| F btxauthortoregister       | F btxsetentry                |
| F btxcmdstring              | F btxsetregister             |
| F btxcollectlistentries     | F btxsetspecification        |
| F btxcurrentfirstnames      | F btxshortcut                |
| F btxcurrentinitials        | F btxshowauthorremapping     |
| F btxcurrentjuniors         | F btxsingularorplural        |
| F btxcurrentsurnames        | F bxtoregister               |
| F btxcurrentvons            | F btxusedataset              |
| F btxdetail                 | F btxuservariable            |
| F btxdirect                 | F build_page_after_shipout   |
| F btxdoif                   | F build_page_before_shipout  |
| F btxdoifelse               | F build_page_setup           |
| F btxdoifelsecitedone       | F capheight                  |
| F btxdoifelsecombiinlist    | F charactercontrolcodestring |
| F btxdoifelsematches        | F chardescription            |
| F btxdoifelsesameasprevious | F checkcolumnset             |
| F btxdoifelseuservariable   | F checkcolumnsetmvl          |
| F btxdoifnot                | F checkcountersetup          |
| F btxentrytobuffer          | F checkedconversion          |
| F btxentrytostring          | F checkedemoji               |
| F btxexpandedjournal        | F checkedpagefloat           |
| F btxfetchlistentries       | F checkinjector              |
| F btxfield                  | F checkinterfacechain        |
| F btxfirstofrange           | F checkmarkedpages           |
| F btxflush                  | F checknesting               |
| F btxflushlistcombi         | F checkspacingavailable      |
| F btxflushlistentry         | F checkstrutdepth            |
| F btxflushlisttag           | F chemicalcomponent          |
| F btxflushmarked            | F chinesenumerals            |
| F btxflushpages             | F chr                        |
| F btxhandlecite             | F classoptioncodestring      |
| F btxhandlenocite           | F cleancolumnset             |
| F btxlastofrange            | F cleanfontname              |
| F btxlistvariant            | F cleanupattributes          |
| F btxloaddefinitionfile     | F cleanupbox                 |
| F btxloadjournalist         | F cleanuplayers              |
| F btxloadreplacementfile    | F clonefield                 |
| F btxmissing                | F closein                    |
| F btxoneorrange             | F closeout                   |
| F btxpreparelistentries     | F codedef                    |
| F btxremapauthor            | F collectedmath              |
| F btxsavedataset            | F collectfloat               |
| F btxsavejournalist         | F collecthelp                |
| F btxsetdataset             | F columnsetbalancefirst      |

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|----------------------------------|----------------------------|
| F columnsetbalancelast           | F copyposition             |
| F columnsetbalancepage           | F cos                      |
| F columnsetcolumnwidth           | F cosd                     |
| F columnsetdisablewide           | F ctxfunction              |
| F columnsetenablewide            | F ctxluamatch              |
| F columnsetgoto                  | F ctxluamatchfile          |
| F columnsethascontent            | F ctxresetter              |
| F columnsethspan                 | F ctxscanner               |
| F columnsetlastfuture            | F currentcomponent         |
| F columnsetlastmvl               | F currentdate              |
| F columnsetlimit                 | F currentdesignsize        |
| F columnsetnoto                  | F currentenvironment       |
| F columnsetresetdirect           | F currentfontinstancespec  |
| F columnsetresetshapeextra       | F currentposthyphenchar    |
| F columnsetreshape               | F currentprehyphenchar     |
| F columnsetsblockrows            | F currentproduct           |
| F columnsetsetshapeextra         | F currentproject           |
| F columnsetshape                 | F currentsectiontolist     |
| F columnsetshapebalancecheck     | F datasetsize              |
| F columnsetshapebalanceextend    | F datasetvariable          |
| F columnsetshapecolumn           | F day                      |
| F columnsetshapecount            | F daynmem                  |
| F columnsetshapeindex            | F dayname                  |
| F columnsetshapepage             | F decimals                 |
| F columnsetshapresetbalancerange | F decrementcounter         |
| F columnsetshapslots             | F decrementsubcounter      |
| F columnsetshapspread            | F deferredenhancelist      |
| F columnsetshapevsize            | F deferredenhancereference |
| F columnsetshapeworst            | F deferredenhanceregister  |
| F columnsetshowgrid              | F defineaccents            |
| F columnsetshowshape             | F defineattribute          |
| F columnsetshowtracedgrid        | F defineboundary           |
| F columnsetstate                 | F definebreakpoint         |
| F columnsetstatus                | F definebreakpoints        |
| F combineglyphs                  | F definecharacterspacing   |
| F component                      | F definechemical           |
| F concatcommalist                | F definecolumnset          |
| F consultfloat                   | F defineconversion         |
| F continueifinputfile            | F definecounter            |
| F convertbtxdatasettoxml         | F definedlayoutcomponent   |
| F converteddimen                 | F definefallbackfamily     |
| F convertmpstopdf                | F definefield              |
| F copyboxfromcache               | F definefieldset           |
| F copyboxline                    | F definefilefallback       |

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|------------------------------|---------------------------------|
| F definefilesynonym          | F digits_normal                 |
| F definefont_one             | F digits_reverse                |
| F definefont_two             | F directboxfromcache            |
| F definefontcolorpalette     | F disableautofontscript         |
| F definefontfamily           | F disablecollectingmath         |
| F definefontfamilypreset     | F disabledirectives             |
| F definefontfeature          | F disableexperiments            |
| F definefontscriptset        | F disablejobsave                |
| F definefontsolution         | F disableparbuilder             |
| F definehyphenationfeatures  | F disableregime                 |
| F defineinsertion            | F disablespellchecking          |
| F defineintermediatecolor    | F disablestatetriggering        |
| F definelabcolorglobal       | F disablestream                 |
| F definelabcolorlocal        | F disabletrackers               |
| F definelabels               | F discardfromlist               |
| F definelanguage             | F discoptioncodestring          |
| F definelinkedlist           | F disposeboxesincache           |
| F definemathpreset           | F disposeluatable               |
| F definemultitonecolorglobal | F doanalyzeframedbox            |
| F definenamespace            | F doif                          |
| F definenote                 | F doifcounter                   |
| F defineparallel             | F doifelse                      |
| F defineparbuilder           | F doifelseblack                 |
| F defineprocesscolordummy    | F doifelseboxincache            |
| F defineprocesscolorglobal   | F doifelsebuffer                |
| F defineprocesscolorlocal    | F doifelsebufferempty           |
| F defineprogram              | F doifelsecharinfont            |
| F definereference            | F doifelseconverter             |
| F defineregister             | F doifelsecounter               |
| F definesectionlevels        | F doifelsecounteractive         |
| F definespotcolorglobal      | F doifelsecurrentfonthasfeature |
| F definestructureblock       | F doifelseedimenstring          |
| F definestructureset         | F doifelsedrawingblack          |
| F definesubcolumnset         | F doifelsefieldcategory         |
| F definetransparency         | F doifelsefieldset              |
| F definetransparencyglobal   | F doifelsefiledefined           |
| F definetypeface             | F doifelsefileexist             |
| F defineviewerlayer          | F doifelsefirstchar             |
| F delayedcolumnsetsheet      | F doifelsefirstsectionpage      |
| F depthnumber                | F doifelsefontfeature           |
| F depthofstring              | F doifelsefontpresent           |
| F descender                  | F doifelseindented              |
| F detachinsertions           | F doifelseinelement             |
| F diagnostic                 | F doifelseinputfile             |

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|---------------------------------|------------------------------|
| F doifelseleapyear              | F doifnotecontent            |
| F doifselisthasentry            | F doifnotsame                |
| F doifselisthasnumber           | F doifnotinthing             |
| F doifselisthaspage             | F doifposition               |
| F doifselisthasitle             | F doifsame                   |
| F doifselmarkedcontent          | F doifsomething              |
| F doifselmarkedpage             | F doifunknownfontfeature     |
| F doifselmessage                | F domainattribute            |
| F doifselnoteonsamepage         | F doreshapeframedbox         |
| F doifselobjectfound            | F doresyncframedbox          |
| F doifselobjectreferencefound   | F dosaveposition             |
| F doifselolderversion           | F dosavepositionplus         |
| F doifseloverlapping            | F dosavepositionwhd          |
| F doifselparallel               | F dosetposition              |
| F doifselparentfile             | F dosetpositionbox           |
| F doifselpathexist              | F dosetpositionplus          |
| F doifselpendingpagecontent     | F dosetpositionstrut         |
| F doifselposition               | F dosetpositionstrutkind     |
| F doifselpositiononpage         | F dosetpositionwhd           |
| F doifselpositionsonsamepage    | F dostarttextfile            |
| F doifselpositionsonthispage    | F dostoptextfile             |
| F doifselpositionsused          | F doublescriptmodecodestring |
| F doifselrangeonpage            | F droptablegroup             |
| F doifselreference              | F elapsedsteptime            |
| F doifselreferencechecked       | F elapsedtime                |
| F doifselreferenced             | F embedimagefromstore        |
| F doifselrighttoleftinbox       | F enablealignmentcharacter   |
| F doifselesame                  | F enablealignskips           |
| F doifselomething               | F enableasciimode            |
| F doifselspaces                 | F enableautofences           |
| F doifselstackedfloats          | F enableautofontscript       |
| F doifselstructureblockempty    | F enablebackgroundalign      |
| F doifselssynonymshown          | F enablebackgroundboxes      |
| F doifselssynonymused           | F enablecollectingmath       |
| F doifselsetaggednoteonsamepage | F enablecolor                |
| F doifselurldefined             | F enablecolorintents         |
| F doifselutfmathaccent          | F enablecrlf                 |
| F doifselutfmathfiller          | F enabledirectives           |
| F doifselutfmathlimp            | F enabledriver               |
| F doifselvalidhashedfiles       | F enableexperiments          |
| F doifselvisualizer             | F enablefontcolorchemes      |
| F doifmarkedpage                | F enablehidecontent          |
| F doifnot                       | F enablemathalignrelocate    |
| F doifnotcounter                | F enablematrixornaments      |

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|---------------------------------|-----------------------------|
| F enablematrixrules             | F filenameonly              |
| F enableparbuilder              | F filesuffix                |
| F enableregime                  | F filterdefaultreference    |
| F enablescriptunstacking        | F filterreference           |
| F enablesidefloatchecker        | F finalizeobjectbox         |
| F enablespellchecking           | F finalizeshipoutbox        |
| F enablestacking                | F findregisterinternal      |
| F enablestatetriggering         | F finishcolumnsetflush      |
| F enablestream                  | F finishexport              |
| F enableswapping                | F firstinset                |
| F enabletighten                 | F firstsectionpage          |
| F enabletrackers                | F firstsubcountervalue      |
| F enabletransparency            | F flagcodestring            |
| F enableutf                     | F flushcolumnsetareas       |
| F enhancelinkedlist             | F flushcolumnsetcolumn      |
| F enhancealist                  | F flushfloat                |
| F enhanceregister               | F flushlabeledfloat         |
| F enhancesynonym                | F flushnoterange            |
| F environment                   | F flushnotes                |
| F eposcolumn                    | F flushpageblocks           |
| F eposcolumnregistered          | F flushpageinjectionsafter  |
| F erasebuffer                   | F flushpageinjectionsbefore |
| F execute                       | F flushpostponedblocks      |
| F exportbox                     | F flushpostponednotes       |
| F exportformdata                | F flushstream               |
| F exportreferences              | F flushstreamcopy           |
| F expression                    | F fontchar                  |
| F extendregister                | F fontcharbyindex           |
| F extendregisterlate            | F fontcollectionclone       |
| F extensiblecode                | F fontcollectiondefine      |
| F fakeword                      | F fontcollectionprepare     |
| F featureattribute              | F fontcollectionregister    |
| F feedback                      | F fontcollectionreport      |
| F fetchlanguagetext             | F fontcollectionreset       |
| F fetchmultipar                 | F fontlookupgetkey          |
| F fetchposboxes                 | F fontlookupgetkeyofindex   |
| F fetchterminaldata             | F fontlookupinitialize      |
| F figure_flush_registered_pages | F fontlookupnoffound        |
| F figure_mergegoodies           | F forceendjob               |
| F figure_nof_registered_pages   | F forcepageflush            |
| F figure_register_page          | F forcequitjob              |
| F figuresetdimensions           | F forcestrutdepth           |
| F filebasename                  | F format                    |
| F filedirname                   | F formatcolor               |

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|----------------------------------|------------------------------|
| F formatgray                     | F getmathchartwo             |
| F formatluminance                | F getmathmathblob            |
| F formatluminanceratio           | F getmathtextblob            |
| F formatone                      | F getmathvariant             |
| F framedoutline                  | F getmessage                 |
| F from                           | F getmpextensions            |
| F frozenparcodestring            | F getnaturaldimensions       |
| F frule                          | F getnaturalwd               |
| F getMPdata                      | F getnofpreviouslines        |
| F getbidimode                    | F getnotestate               |
| F getbodyfontsizes               | F getnotestorecount          |
| F getboxcountfromcache           | F getnotestoreflushed        |
| F getboxdpfromcache              | F getobjectdimensions        |
| F getboxfromcache                | F getobjectreference         |
| F getboxhtdpfromcache            | F getobjectreferencepage     |
| F getboxhtfromcache              | F getparshape                |
| F getboxwdfromcache              | F getparwrapper              |
| F getbuffer                      | F getprivatechar             |
| F getbuffercontent               | F getprivateglyphslot        |
| F getbufferctxlua                | F getprivatemathchar         |
| F getbuffermkvi                  | F getprivateslot             |
| F getbuffertext                  | F getprogram                 |
| F getcharactercasingcategory     | F getrandomdimen             |
| F getclubpenalties               | F getrandomfloat             |
| F getcurrentprefixspec           | F getrandomnumber            |
| F getcurrentreferencelabel       | F getrandomseed              |
| F getcurrentreferencemetadata    | F getreadfilename            |
| F getdefaultfieldvalue           | F getreferencesectionnumber  |
| F getdisplaywidowpenalties       | F getrivers                  |
| F getdocumentargument            | F getsetupstring             |
| F getdocumentfilename            | F getshapeparameter          |
| F getfieldcategory               | F getsomefullstructurenumber |
| F getfile                        | F getsomestructurenumber     |
| F getfirstcharacter              | F getspecificstructuretitle  |
| F getfloatvariable               | F getstructurelevel          |
| F getfromluatable                | F getstructurenumber         |
| F getfullstructurenumber         | F getsubstring               |
| F getinterlinepenalties          | F getsynchronizemarking      |
| F getinternalcachedlistreference | F geturl                     |
| F getinternallistreference       | F getvisual                  |
| F getinternalorderreference      | F getwidowpenalties          |
| F getmathblobindex               | F globalpopmacro             |
| F getmathblobmapping             | F globalpushmacro            |
| F getmathcharone                 | F gluetoinesinbox            |

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|-------------------------|------------------------------|
| F glyphoptioncodestring | F ifxmlempty                 |
| F gobblenested          | F ifxmlselfempty             |
| F gotocolumnsetslot     | F ifxmltext                  |
| F grabbuffer            | F ignorefile                 |
| F groupcodestring       | F ignoretagsinexport         |
| F groupsetgroup         | F immediatemessage           |
| F grph_nodes_initialize | F includesvgbuffer           |
| F grph_nodes_register   | F includesvgfile             |
| F grph_nodes_reset      | F incrementcounter           |
| F grph_nodes_resolve    | F incrementsubcounter        |
| F handlemathhang        | F inhibitprimitive           |
| F hboxtovbox            | F initializeexport           |
| F heightofstring        | F initializejob              |
| F helpaction            | F initializemathcollapsing   |
| F helpreference         | F initializemathfencing      |
| F hour                  | F initializemathitalics      |
| F hpackbox              | F initializemathkernpairs    |
| F hpackedbox            | F initializemathnumbers      |
| F hsplit                | F initializemathspacing      |
| F hyphenateddigits      | F initializestream           |
| F hyphenatedlist        | F initializetexdirectives    |
| F hyphenationcodestring | F initializetexexperiments   |
| F ic                    | F initializetextrackers      |
| F idxfromluatable       | F injectcurrentreference     |
| F if_common             | F injectcurrentreferencehtdp |
| F ifallmodes            | F injectdisable              |
| F ifbitwiseand          | F injectnowhite              |
| F ifblobindexdone       | F injectreference            |
| F ifboxhaslist          | F injectvpenalty             |
| F ifcommon              | F injectvskip                |
| F ifeof                 | F injectvspacing             |
| F ifgluelineinbox       | F injectzerobaselineskip     |
| F ifinset               | F inlinechemical             |
| F iflua                 | F inputfilebarename          |
| F ifmode                | F inputfilename              |
| F ifmodes               | F inputfilerealsuffix        |
| F ifmvl                 | F inputfilesuffix            |
| F ifpositunum           | F insertattachment           |
| F ifsetups              | F insertcategorycodestring   |
| F ifsystemmode          | F insertcomment              |
| F iftext                | F insertfield                |
| F ifxml                 | F insertionnumber            |
| F ifxmlatt              | F insertoptioncodestring     |
| F ifxmlattempty         | F insertrenderingwindow      |

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|-------------------------------|-------------------------|
| F inspectluatable             | F listanchorcodestring  |
| F installedlanguages          | F listbookmark          |
| F installtexdirective         | F listexternal          |
| F installtexexperiment        | F listgroupindex        |
| F installtextracker           | F listlabel             |
| F interceptsamepagecontent    | F listlocation          |
| F it                          | F listnamespaces        |
| F jobfilefullname             | F listprefixednumber    |
| F jobfilename                 | F listprefixedpage      |
| F jobfilesuffix               | F listrawnumber         |
| F jobposd                     | F listrawrealpage       |
| F jobposh                     | F listrawuserpage       |
| F jobposp                     | F listsigncodestring    |
| F jobposw                     | F listsize              |
| F jobposx                     | F listtitle             |
| F jobposy                     | F listuserdata          |
| F languagecharwidth           | F lmt_parameters_define |
| F languagenumber              | F lmt_parameters_preset |
| F lastblobindex               | F lmt_parameters_reset  |
| F lastnodeequals              | F loadcldfile           |
| F lastnodeid                  | F loadcldfileonce       |
| F lastnodeidstring            | F loadexamodes          |
| F lastnodesubtypestring       | F loadfontgoodies       |
| F lastparwrapper              | F loadlibrary           |
| F lastrpos                    | F loadluafile           |
| F lastsavedboxresourceindex   | F loadluafileonce       |
| F lastsavedimageresourceindex | F loadluamodule         |
| F lastsavedimageresourcepages | F loadmapfile           |
| F lastsectionpage             | F loadmapline           |
| F lastsubcountervalue         | F loadspellchecklist    |
| F lastunitstring              | F loadtexfile           |
| F lastxpos                    | F loadtexfileonce       |
| F lastypos                    | F loadtypescriptfile    |
| F lateindent                  | F loadvisualizer        |
| F latelua                     | F loadxmlfile           |
| F lateundent                  | F loadxmlfileonce       |
| F lchexnumber                 | F localanchorx          |
| F lchexnumbers                | F localanchory          |
| F leapyear                    | F localboxindent        |
| F limited                     | F localboxindex         |
| F linebuffering               | F localboxlefthang      |
| F linedir                     | F localboxleftoffset    |
| F lineprofilebox              | F localboxleftskip      |
| F linesegment                 | F localboxlinenumber    |

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|----------------------------|-------------------------|
| F localboxlinewidth        | F mathclassvalue        |
| F localboxlocalwidth       | F mathcontrolcodestring |
| F localboxmarkonce         | F mathhorizontalcode    |
| F localboxovershoot        | F mathoptioncodestring  |
| F localboxparfillleftskip  | F mathrenderset         |
| F localboxparfillrightskip | F mathstrutcode         |
| F localboxparinitleftskip  | F mathvariantcode       |
| F localboxparinitrightskip | F mathvariantcount      |
| F localboxprogress         | F mathvariantslot       |
| F localboxrighthang        | F maxbufferwidth        |
| F localboxrightoffset      | F message               |
| F localboxrightskip        | F metapostescaped       |
| F localpopmacro            | F metapostformatted     |
| F localpushmacro           | F metapostgraphformat   |
| F locatefilepath           | F minute                |
| F loopcs                   | F mixcleanup            |
| F loopcsn                  | F mixfinalize           |
| F lousiness                | F mixflushlist          |
| F luacardinal              | F mixflushrest          |
| F luacount                 | F mixgetsplit           |
| F luadimen                 | F mixsetsplit           |
| F luaexpression            | F mixstate              |
| F luafloat                 | F modecodestring        |
| F luainteger               | F molecule              |
| F luanumber                | F month                 |
| F luarandom                | F monthmnem             |
| F luascript                | F monthname             |
| F luathread                | F mpblobtext            |
| F lxmlid                   | F mpcolor               |
| F manipulated              | F mpgetblob             |
| F markblobindexdone        | F mpgettext             |
| F markcontent              | F mpgraphic             |
| F markedpageparameter      | F mpgraphictexttoks     |
| F markedpages              | F mpoptions             |
| F markingnumber            | F mpoutlinetoks         |
| F markingtitle             | F mppopvariables        |
| F markinjector             | F mppushvariables       |
| F markpage                 | F mprunset              |
| F markregionbox            | F mpruntab              |
| F markregionboxcorrected   | F mprunvar              |
| F markregionboxtagged      | F mpsetclippath         |
| F markregionboxtaggedkind  | F mpsetoutercolor       |
| F markregionboxtaggedn     | F mpsetsxsy             |
| F markvisualfonts          | F mpsettext             |

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|------------------------------|-------------------------------|
| F mptexget                   | F objectreference             |
| F mptexreset                 | F objectreferencepage         |
| F mptexset                   | F octnumber                   |
| F mptexsetfrombuffer         | F openin                      |
| F mptexttoks                 | F openout                     |
| F mvloptioncodestring        | F operatingsystem             |
| F namedstructureuservariable | F ordinal                     |
| F namedstructurevariable     | F outputfilename              |
| F naturalwd                  | F overloadbookmark            |
| F negatedcolorcomponent      | F overloadlowercase           |
| F newarray                   | F overloadsattribute          |
| F newhashedtable             | F overloaduppercase           |
| F newindexedtable            | F pageblockrealpage           |
| F newluatable                | F pageofinternal              |
| F newparwrapper              | F pageoverflow                |
| F newrepeatablerandom        | F pagestaterealpage           |
| F newstacking                | F pagestaterealpageorder      |
| F nextparallel               | F paragraphfillmodecodestring |
| F nextsubcountervalue        | F paragraphoptioncodestring   |
| F nodimen                    | F parcontextcodestring        |
| F nofbufferlines             | F pardir                      |
| F nofconversions             | F parpasscallback             |
| F nofdays                    | F parpassidentifier           |
| F nofdetachedinsertions      | F parpos                      |
| F noflinesinbox              | F partriggercodestring        |
| F nofmathvariants            | F pdfbackendcurrentresources  |
| F nofstackedfloats           | F pdfbackendsetcatalog        |
| F nologbuffering             | F pdfbackendsetcolorspace     |
| F normalizecodestring        | F pdfbackendsetextgstate      |
| F normalizedbodyfontsize     | F pdfbackendsetinfo           |
| F normalizeparcodestring     | F pdfbackendsetname           |
| F nospacesmodecodestring     | F pdfbackendsetpageattribute  |
| F notedeltapage              | F pdfbackendsetpageresource   |
| F noteinternal               | F pdfbackendsetpagesattribute |
| F notelistindex              | F pdfbackendsetpattern        |
| F noteprefixednumber         | F pdfbackendsetshade          |
| F notetitle                  | F pdfcolor                    |
| F ntb_split_section_check    | F pdfextension                |
| F ntb_split_section_fetch    | F pdffeedback                 |
| F ntb_split_section_locate   | F pdflastobj                  |
| F ntb_split_section_reset    | F pdfliteral                  |
| F ntimes                     | F pdfobj                      |
| F number                     | F pdfrefobj                   |
| F numbers                    | F pdfsetuserdata              |

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|-----------------------|-------------------------------|
| F pdfvariable         | F positunum                   |
| F percentageof        | F positunumdef                |
| F pfabs               | F postlistbox                 |
| F pfacos              | F postlistcopy                |
| F pfacosh             | F postponenotes               |
| F pfasin              | F prefixedconverted           |
| F pfasinh             | F prelistbox                  |
| F pfatan              | F prelistcopy                 |
| F pfatanh             | F preparecolumnsetflush       |
| F pfatantwo           | F prerolledpages              |
| F pfceil              | F presetcolumnsetsheets       |
| F pfcos               | F presetcolumnsetspreadsheets |
| F pfcosh              | F presetmathematics           |
| F pfdeg               | F presetmathfontalternate     |
| F pfexp               | F presetsymbolist             |
| F pffloor             | F previoussubcountervalue     |
| F pflog               | F privatecharacter            |
| F pfmod               | F privatecharactercode        |
| F pfpow               | F processbodyfontsizes        |
| F pfrad               | F processbuffer               |
| F pfrem               | F processcollectedmath        |
| F pfround             | F processedfile               |
| F pfsin               | F processedfiles              |
| F pfsinh              | F processfile                 |
| F pfsqrt              | F processfilemany             |
| F pftan               | F processfilenone             |
| F pftanh              | F processfileonce             |
| F pgfxcolorspec       | F processjob                  |
| F pickupbuffer        | F processlist                 |
| F pickupmarkedcontent | F processregister             |
| F pickuppunctuation   | F processsplit                |
| F placeparallel       | F processsynonyms             |
| F popfloat            | F product                     |
| F pophyphenation      | F profilebox                  |
| F poplist             | F profilemacro                |
| F poplocalanchors     | F project                     |
| F poplogfile          | F pruneboxesincache           |
| F popparagraphtweak   | F purefontname                |
| F poppath             | F pushfloat                   |
| F poprandomseed       | F pushhyphenation             |
| F popreferenceprefix  | F pushlist                    |
| F popregime           | F pushlocalanchors            |
| F poprunstate         | F pushlogfile                 |
| F popsectionblock     | F pushparagraphtweak          |

|                                 |                                |
|---------------------------------|--------------------------------|
| F pushpath                      | F registerfigureorange         |
| F pushrandomseed                | F registerfiguresuffix         |
| F pushreferenceprefix           | F registerfilescheme           |
| F pushregime                    | F registerfontalternative      |
| F pushrunstate                  | F registerfontfamily           |
| F pushsectionblock              | F registerforcedbreak          |
| F pushstream                    | F registergroupset             |
| F putboxincache                 | F registerhashedfiles          |
| F putincolumnset                | F registerhelp                 |
| F putincolumnsetdirect          | F registerhyphenationexception |
| F putnextboxincache             | F registerhyphenationpattern   |
| F qrcodebuffer                  | F registeritemgroup            |
| F qrcodestring                  | F registerlabel                |
| F rawMPdata                     | F registerlanguagefeatures     |
| F rawcharacter                  | F registerlinenumbering        |
| F rawsetupstring                | F registermaintextcolor        |
| F rawsubcountervalue            | F registermpextensible         |
| F read                          | F registernamedlua             |
| F readfromterminal              | F registernamespace            |
| F readline                      | F registerobject               |
| F readlinedirect                | F registerpattern              |
| F recolorbox                    | F registerpostponedblock       |
| F referencecolumn               | F registerreferencedobject     |
| F referencepagedetail           | F registerrendering            |
| F referencepagestate            | F registersection              |
| F referenceposx                 | F registershownsynonym         |
| F referenceposy                 | F registersnaprange            |
| F referencerealpage             | F registerstructureprocessor   |
| F registeranchorbox             | F registersynchronize          |
| F registerattachment            | F registersynonym              |
| F registerbackendsymbol         | F registertransliteration      |
| F registerbackground            | F registerunit                 |
| F registerbodyfontsize          | F registerunitsshortcut        |
| F registerbookmark              | F registerunknownbodysize      |
| F registerboxglyph              | F registerusedsynonym          |
| F registerbuttons               | F registeruserdata             |
| F registercolorintent           | F registerverbosemathlabel     |
| F registercolumnsetarea         | F removelastring               |
| F registercolumnsetsheet        | F renderingvar                 |
| F registercolumnsetspreadsheets | F reorderfloats                |
| F registerengineclass           | F replacefeature               |
| F registerfallbackfont          | F replacepospxywhd             |
| F registerfiguremask            | F replacewildcard              |
| F registerfigurepattern         | F reportstructure              |

|                            |                           |
|----------------------------|---------------------------|
| F resavefloat              | F roundedfill             |
| F reservedautoregiontag    | F roundedoutline          |
| F resetMPinstance          | F ruby                    |
| F resetalternate           | F ruleoptioncodestring    |
| F resetbackgroundrowdata   | F runcontextjob           |
| F resetboxesincache        | F safechar                |
| F resetcharacteralign      | F samplefile              |
| F resetcolumnset           | F saveboxresource         |
| F resetcomparingtext       | F savebuffer              |
| F resetcounter             | F savecounter             |
| F reseteffect              | F savecurrentattributes   |
| F resetfeature             | F savecurrentvalue        |
| F resetfontfeature         | F savedlistnumber         |
| F resetfontsolution        | F savedlistprefixednumber |
| F resetforcedbreak         | F savedlisttitle          |
| F resetinjector            | F savefloat               |
| F resetlogfile             | F saveimageresource       |
| F resetmapfiles            | F savemargindata          |
| F resetmathattributes      | F savenote                |
| F resetnullfont            | F savepagedata            |
| F resetparallel            | F savepageinjections      |
| F resetpath                | F saveparallel            |
| F resetreference           | F savepos                 |
| F resetscript              | F savespecificfloat       |
| F resetstructureprocessor  | F savestructureblock      |
| F resetsubcounter          | F scangivendimensions     |
| F resetsynchronizemarking  | F scriptsmodecodestring   |
| F resetsynonyms            | F second                  |
| F resettimer               | F selectstructureblock    |
| F resettrackers            | F set_extensible_data     |
| F resolvedemoji            | F setadaptive             |
| F restartcounter           | F setalternate            |
| F restartsubcounter        | F setautoprefix           |
| F restorecounter           | F setbackgroundrowdata    |
| F restorecurrentattributes | F setboxglyph             |
| F restorenote              | F setboxline              |
| F restoreobject            | F setbreakpoints          |
| F reuserandomseed          | F setcharacteralign       |
| F reverseboxcontent        | F setcharacteraligndetail |
| F revivefeature            | F setcharactercasing      |
| F rightmathkern            | F setcharactercleaning    |
| F romannumerals            | F setcharacterkerning     |
| F rotateparshape           | F setcharacterspacing     |
| F rounded                  | F setcharacterstripping   |

|                              |                             |
|------------------------------|-----------------------------|
| F setclosedocumentaction     | F setidentityvariable       |
| F setclosepageaction         | F setinitial                |
| F setcolormodel              | F setinitialsectionblock    |
| F setcolumnsetarea           | F setinjector               |
| F setcolumnsetlines          | F setinsertionlocation      |
| F setcolumnsetmvl            | F setinsertmigration        |
| F setcolumnsetpresent        | F setinterfaceconstant      |
| F setcolumnsetproperties     | F setinterfaceelement       |
| F setcolumnsetstart          | F setinterfacemessage       |
| F setcomparetext             | F setinterfacemessages      |
| F setcomparingtext           | F setinterfacevariable      |
| F setcounter                 | F setinternalreference      |
| F setdataset                 | F setitaliccorrection       |
| F setdestinationattribute    | F setjavascriptpreamble     |
| F setdigitsmanipulation      | F setjobcomment             |
| F setdirection               | F setlanguageexceptions     |
| F setdocumentargument        | F setlanguageoptions        |
| F setdocumentcommandline     | F setlanguagepatterns       |
| F setdocumentctxfile         | F setlanguagesynonym        |
| F setdocumentdefaultargument | F setlinefiller             |
| F setdocumentenvironments    | F setlineprofile            |
| F setdocumentfilename        | F setlocalalignanchor       |
| F setdocumentfilenames       | F setlocalmarkanchor        |
| F setdocumentmodes           | F setlocalsyncanchor        |
| F setdocumentmodules         | F setluatable               |
| F seteffect                  | F setmathalphabet           |
| F setelementbacktag          | F setmathattribute          |
| F setelementnature           | F setmathfontalternate      |
| F setextrafontkerns          | F setmathfontstyle          |
| F setfieldcalculationset     | F setmathsnapping           |
| F setfigureconversion        | F setmathvariant            |
| F setfigurelookuporder       | F setmetaglyph              |
| F setfigurepaths             | F setmpextensions           |
| F setfirstline               | F setnaturalwd              |
| F setfontfeature             | F setnegative               |
| F setfontofid                | F setnextinternalreferences |
| F setfontsolution            | F setnextreferenceorder     |
| F setformat                  | F setnotestate              |
| F setformsmethod             | F setopendocumentaction     |
| F sethsizecolumnset          | F setopenpageaction         |
| F sethsizecolumnspan         | F setowncounter             |
| F sethyphenatedurlcharacters | F setownsubcounter          |
| F sethyphenationfeatures     | F setpagecolormodel         |
| F sethyphenationmethod       | F setpagestate              |

|                          |                                 |
|--------------------------|---------------------------------|
| F setpagestaterealpageno | F settaggingoption              |
| F setpagetransition      | F settaggingpresets             |
| F setparagraphmetashape  | F settaghighlight               |
| F setparagraphshape      | F settagitem                    |
| F setparbuilder          | F settagitemgroup               |
| F setparwrapper          | F settaglist                    |
| F setpdfcompression      | F settagmarginanchor            |
| F setperiodkerning       | F settagmarginintext            |
| F setpostlistbox         | F settagmgraphic                |
| F setprelistbox          | F settagnotation                |
| F setprofile             | F settagnotationsymbol          |
| F setrandomseed          | F settagparagraph               |
| F setrealign             | F settagproperty                |
| F setrealspaces          | F settagpublication             |
| F setreferencelinkmethod | F settagregister                |
| F setregionbox           | F settagsetreferencedescription |
| F setregionboxtagged     | F settagsorting                 |
| F setregistermethod      | F settagssubsentencesymbol      |
| F setreplacements        | F settagssynonym                |
| F setruby                | F settagtablecell               |
| F setrule                | F settagtabulatecell            |
| F setscript              | F settransliteration            |
| F setsectionblock        | F setupbookmarks                |
| F setsectionentry        | F setupcanvas                   |
| F setshadow              | F setupcharacterspacing         |
| F setshift               | F setupcomparingtext            |
| F setsofthyphens         | F setupexport                   |
| F setsplitlisthtdp       | F setupfontexpansion            |
| F setstacking            | F setupfontprotrusion           |
| F setstructureblockstate | F setupinsertion                |
| F setstructurelevel      | F setuplinenumbers              |
| F setstructurenumber     | F setupsynctex                  |
| F setsubcounter          | F setupusermetadata             |
| F settagcodepoint        | F setupviewerlayer              |
| F settagcombination      | F setvisual                     |
| F settagcombinationpair  | F setvisualfont                 |
| F settagconstruct        | F setvisuallayer                |
| F settagdelimitedsymbol  | F setvisuals                    |
| F settagdescriptionindex | F setvsizeset                   |
| F settagfigure           | F setxmpfile                    |
| F settagfloat            | F shiftmatrixornaments          |
| F settagformulacontent   | F shiftparshape                 |
| F settaggedmetadata      | F shipoutpage                   |
| F settaggingcomment      | F showarray                     |

|                                 |                         |
|---------------------------------|-------------------------|
| F showassignerror               | F specifiedfont         |
| F showattributes                | F specifiedfontsize     |
| F showbits                      | F specifiedfontspec     |
| F showboxinbuffer               | F splitfilename         |
| F showbtxdatasetauthors         | F splitsamplefile       |
| F showbtxdatasetcompleteness    | F spotcolorname         |
| F showbtxdatasetfields          | F spotcolorparent       |
| F showbtxentry                  | F spotcolorvalue        |
| F showbtxfields                 | F squid_check           |
| F showbtxhashedauthors          | F startactualtext       |
| F showbtxtables                 | F startalternativetext  |
| F showbtxvariants               | F startchemical         |
| F showchardata                  | F startclipping         |
| F showcounter                   | F startcollectingmath   |
| F showdirectives                | F startcolorset         |
| F showdiscretionaries           | F startcomponent        |
| F showexperiments               | F startenvironment      |
| F showfontparameters            | F startfontsolution     |
| F showhyphenatedinlist          | F startgraphicgroup     |
| F showhyphenationtrace          | F startlocalcomponent   |
| F showinjector                  | F startmarkpages        |
| F showjustification             | F startmatrix           |
| F showlogcategories             | F startmirroring        |
| F showluatables                 | F startpageblock        |
| F showluatokens                 | F startparbuilder       |
| F showmacrostack                | F startprerollpageblock |
| F showmessage                   | F startproduct          |
| F showpagelist                  | F startproject          |
| F showparagraphshape            | F startregime           |
| F showprofiledmacros            | F startrotation         |
| F showstructure                 | F startruby             |
| F showtrackers                  | F startscaling          |
| F silliness                     | F startsectionlevel     |
| F simplealign                   | F startstream           |
| F simplecases                   | F starttext             |
| F simplematrix                  | F startviewerlayer      |
| F sin                           | F step                  |
| F sind                          | F stopactualtext        |
| F sl                            | F stopalternativetext   |
| F spaceddigits                  | F stopchemical          |
| F spacefactorcodestring         | F stopclipping          |
| F spaceskipcodestring           | F stopcollectingmath    |
| F special                       | F stopcolorset          |
| F specificationoptioncodestring | F stopcomponent         |

|   |                            |
|---|----------------------------|
| F stopenvironment                       | F structureuservariable    |
| F stopfontsolution                      | F structurevariable        |
| F stopgraphicgroup                      | F subcountervalue          |
| F stoplocalcomponent                    | F subsubcountervalues      |
| F stopmarkpages                         | F subtocolumnsetmvl        |
| F stopmatrix                            | F subtocolumnsetmvlbalance |
| F stopmirroring                         | F subtractfeature          |
| F stoppageblock                         | F svghashed                |
| F stopparbuilder                        | F sync                     |
| F stopprerollpageblock                  | F synccolor                |
| F stopproduct                           | F synccolorclone           |
| F stopproject                           | F synccolorcount           |
| F stopregime                            | F synchronizelocalanchors  |
| F stoprotation                          | F synchronizemarking       |
| F stopscaling                           | F synchronizesteps         |
| F stopsectionlevel                      | F synchronizestream        |
| F stopstream                            | F syntexblockfilename      |
| F stoptext                              | F syntexdisable            |
| F stopviewerlayer                       | F syntexpause              |
| F storejavascriptcode                   | F syntexpopline            |
| F storejavascriptpreamble               | F syntexpushline           |
| F storenote                             | F syntexresetfilename      |
| F storeregister                         | F syntexresume             |
| F strc_tags_document_pop                | F syntexsetfilename        |
| F strc_tags_document_push               | F synonymfirstuserpage     |
| F strc_tags_get_element_tag             | F synonymmeaning           |
| F strc_tags_parcounter_pop              | F synonymname              |
| F strc_tags_parcounter_push             | F synonympages             |
| F strc_tags_set_aspect                  | F synonymuserpages         |
| F strc_tags_set_element_user_properties | F systemlog                |
| F strc_tags_start                       | F tabl_ntb_get_sec         |
| F strc_tags_start_chained               | F tabl_ntb_set_sec         |
| F strc_tags_start_detail                | F tagmfunctionlab          |
| F strc_tags_start_ignore                | F tagmfunctionlabattribute |
| F strc_tags_start_userdata              | F tan                      |
| F strc_tags_stop                        | F tand                     |
| F stringtoorientation                   | F textdir                  |
| F stripinserts                          | F textime                  |
| F structureautocatcodedget              | F tf                       |
| F structureblockuservariable            | F thebox                   |
| F structurecatcodedget                  | F thefirstcharacter        |
| F structuregivencatcodedget             | F themaxboxwidth           |
| F structurenumber                       | F theremainingcharacters   |
| F structuretitle                        | F tightfitcompensation     |

|                            |                        |
|----------------------------|------------------------|
| F timestring               | F usejavascriptscripts |
| F tobigpoints              | F uselibrary           |
| F tobit                    | F uselist              |
| F tobits                   | F useluamodule         |
| F tochar                   | F useluatable          |
| F tohexa                   | F usemathpluginlibrary |
| F toorientation            | F usemodules           |
| F totalofstring            | F usepath              |
| F tounicharnum             | F useproduct           |
| F towholebigpoints         | F useproject           |
| F transliterate            | F userferences         |
| F transliteratebuffer      | F useregister          |
| F transliterated           | F usesubpath           |
| F transliteratedbuffer     | F usesymbols           |
| F transliterationexception | F usetransliteration   |
| F traverseblock            | F useurl               |
| F traversemath             | F usezipfile           |
| F triggerpagebuilder       | F utfchar              |
| F truefilename             | F utflower             |
| F truefontname             | F utfmathclass         |
| F type                     | F utfmathcommand       |
| F typebuffer               | F utfmathcommandfiller |
| F typefile                 | F utfmathfiller        |
| F uchar                    | F utfmathstretch       |
| F uchexnumber              | F utfshape             |
| F uchexnumbers             | F utfstrip             |
| F undefinechemical         | F utfupper             |
| F unicodechar              | F uuid                 |
| F unihex                   | F vboxlisttohbox       |
| F unit                     | F verbose              |
| F unloadlanguage           | F vpackbox             |
| F unstripinserts           | F vpackedbox           |
| F unsupportedcs            | F way                  |
| F useMPlibrary             | F weekday              |
| F useanyfile               | F weekdayname          |
| F useanyfileonce           | F widthofstring        |
| F useboxresource           | F widthuptohere        |
| F usecolors                | F write                |
| F usecomponent             | F writeline            |
| F useenvironment           | F writestatus          |
| F usefigurebase            | F writestring          |
| F usefile                  | F x_table_c            |
| F useimageresource         | F x_table_cleanup      |
| F usejavascriptpreamble    | F x_table_construct    |

|                                     |                        |
|-------------------------------------|------------------------|
| F x_table_create                    | F xmldoif              |
| F x_table_finish_row                | F xmldoifatt           |
| F x_table_flush                     | F xmldoifelse          |
| F x_table_init_construct            | F xmldoifelseatt       |
| F x_table_init_reflow_height        | F xmldoifelseempty     |
| F x_table_init_reflow_height_option | F xmldoifelseselfempty |
| F x_table_init_reflow_width         | F xmldoifelsetext      |
| F x_table_init_reflow_width_option  | F xmldoifempty         |
| F x_table_next_row                  | F xmldoifnot           |
| F x_table_next_row_option           | F xmldoifnotatt        |
| F x_table_r                         | F xmldoifnotempty      |
| F x_table_reflow_height             | F xmldoifnotselfempty  |
| F x_table_reflow_width              | F xmldoifnottext       |
| F x_table_set_construct             | F xmldoifselfempty     |
| F x_table_set_reflow_height         | F xmldoiftext          |
| F x_table_set_reflow_width          | F xmlelement           |
| F xmladdindex                       | F xmlfileline          |
| F xmlaftersetup                     | F xmlfilename          |
| F xmlall                            | F xmlfilter            |
| F xmlappendsetup                    | F xmlfilterlist        |
| F xmlapplyselectors                 | F xmlfirst             |
| F xmlatt                            | F xmlflush             |
| F xmlattdef                         | F xmlflushcontext      |
| F xmlattribute                      | F xmlflushlinewise     |
| F xmlattributedef                   | F xmlflushpure         |
| F xmlbadinclusions                  | F xmlflushsetup        |
| F xmlbeforesetup                    | F xmlflushspacewise    |
| F xmlchainatt                       | F xmlflushtext         |
| F xmlchainattdef                    | F xmlformulatobuffer   |
| F xmlchecknamespace                 | F xmlfunction          |
| F xmlcommand                        | F xmlgetindex          |
| F xmlconcat                         | F xmlinclude           |
| F xmlconcatrange                    | F xmlincludeoptions    |
| F xmlcontext                        | F xmlinclusion         |
| F xmlcount                          | F xmlinclusionbase     |
| F xmlcssmappedstylevalue            | F xmlinclusions        |
| F xmlcssstylevalue                  | F xmlindex             |
| F xmldelete                         | F xmlinlineverbatim    |
| F xmldepth                          | F xmlinstalldirective  |
| F xmldirect                         | F xmllast              |
| F xmldirectives                     | F xmllastatt           |
| F xmldirectivesafter                | F xmllastmatch         |
| F xmldirectivesbefore               | F xmllastpar           |
| F xmldisplayverbatim                | F xmlloadbuffer        |

F xmlloaddata  
 F xmlloaddirectives  
 F xmlloadentities  
 F xmlloadfile  
 F xmlmain  
 F xmlmatch  
 F xmlname  
 F xmlnamespace  
 F xmlnonspace  
 F xmlpar  
 F xmlparam  
 F xmlpath  
 F xmlpopmatch  
 F xmlpos  
 F xmlprependsetup  
 F xmlpure  
 F xmlpushmatch  
 F xmlraw  
 F xmlrawtex  
 F xmlrefatt  
 F xmlregistersns  
 F xmlremapname  
 F xmlremapnamespace  
 F xmlremovesetup  
 F xmlresetinjectors  
 F xmlresetsetups  
 F xmlsave  
 F xmlsetatt  
 F xmlsetattribute  
 F xmlsetcommandtonone  
 F xmlsetcommandtotext  
 F xmlsetentity  
 F xmlsetinjectors  
 F xmlsetpar  
 F xmlsetparam  
 F xmlsetsetup  
 F xmlsnippet  
 F xmlstartraw  
 F xmlstarttiming  
 F xmlstopraw  
 F xmlstoptiming  
 F xmlstrip  
 F xmlstripanywhere  
 F xmlstripeverything

F xmlstrippolines  
 F xmlstripped  
 F xmlstrippednolines  
 F xmltag  
 F xmltexatt  
 F xmltexentity  
 F xmltext  
 F xmltobuffer  
 F xmltobufferfertextonly  
 F xmltobufferferverbos  
 F xmltofile  
 F xmltoparameters  
 F xmlverbatim  
 F xmlwithindex  
 F year

### containers

F cleanname  
 F content  
 F define  
 F is\_usable  
 F is\_valid  
 F read  
 B usecache  
 F write

table

### context

F bc  
 F bgroup  
 T catcodes  
 N context  
 N ctx  
 N ctxcatcodes  
 N plain  
 N protect  
 N prt  
 N prtcatcodes  
 N tex  
 N texcatcodes  
 N text  
 N txt  
 N txtcatcodes  
 N verbatim  
 N vrb  
 N vrbcatcodes  
 F char

function

|                                |                         |
|--------------------------------|-------------------------|
| F concat                       | F ParsedXmlSnippetValue |
| D conditionals                 | F TexSnippet            |
| T core                         | F TexSnippetBoundary    |
| F BC                           | F TexSnippetComment     |
| F EQ                           | F TexSnippetCommentText |
| F FL                           | F TexSnippetGroup       |
| F HL                           | F TexSnippetName        |
| F LABELTEXT                    | F TexSnippetSpecial     |
| F LL                           | F VL                    |
| F LuaSnippet                   | F XmlSnippet            |
| F LuaSnippetBoundary           | F XmlSnippetBoundary    |
| F LuaSnippetComment            | F XmlSnippetCdata       |
| F LuaSnippetCommentText        | F XmlSnippetComment     |
| F LuaSnippetName               | F XmlSnippetEntity      |
| F LuaSnippetNameBase           | F XmlSnippetEqual       |
| F LuaSnippetNameCore           | F XmlSnippetKey         |
| F LuaSnippetNameLibraries      | F XmlSnippetName        |
| F LuaSnippetQuote              | F XmlSnippetString      |
| F LuaSnippetSpecial            | F applyprocessor        |
| F LuaSnippetString             | F beginhbox             |
| F ML                           | F beginvbox             |
| F MPLIBsetCtextX               | F beginvtop             |
| F MPLIBsetNtextX               | F bf                    |
| F MPLIBsettextX                | F bgroup                |
| F MetapostSnippet              | F blank                 |
| F MetapostSnippetBoundary      | F btxchecklistentry     |
| F MetapostSnippetComment       | F btxciteauthorsetup    |
| F MetapostSnippetCommentText   | F btxcitesetup          |
| F MetapostSnippetConstructor   | F btxflushauthor        |
| F MetapostSnippetName          | F btxhandlecombientry   |
| F MetapostSnippetNameMetafun   | F btxhandlelistentry    |
| F MetapostSnippetNamePlain     | F btxlistauthorsetup    |
| F MetapostSnippetNamePrimitive | F btxlistsetup          |
| F MetapostSnippetQuote         | F btxnumberingsetup     |
| F MetapostSnippetSpecial       | F btxpagesetup          |
| F MetapostSnippetString        | F btxsetafter           |
| F NC                           | F btxsetauthorfield     |
| F NR                           | F btxsetauthorvariant   |
| F ParsedXmlSnippetCdata        | F btxsetbacklink        |
| F ParsedXmlSnippetComment      | F btxsetbefore          |
| F ParsedXmlSnippetDoctype      | F btxsetcategory        |
| F ParsedXmlSnippetElement      | F btxsetcombis          |
| F ParsedXmlSnippetInstruction  | F btxsetconcat          |
| F ParsedXmlSnippetKey          | F btxsetcount           |

|                          |                            |
|--------------------------|----------------------------|
| F btxsetcurrentlistentry | F colordeffgc              |
| F btxsetcurrentlistindex | F colordeffgt              |
| F btxsetdataset          | F colordefflc              |
| F btxsetfirst            | F colordefflt              |
| F btxsetfirstinternal    | F colordefrfgc             |
| F btxsetfirstnames       | F colordefrfgt             |
| F btxsetfirstpage        | F colordefrlc              |
| F btxsetinitials         | F colordefrflt             |
| F btxsetinternal         | F convertnumber            |
| F btxsetjuniors          | T cs                       |
| F btxsetlanguage         | F atendofgroup             |
| F btxsetlastinternal     | F bgroup                   |
| F btxsetlastpage         | F clf_step                 |
| F btxsetlefttext         | F droptablegroup           |
| F btxsetnoflistentries   | F egroup                   |
| F btxsetnumber           | F firstofoneargument       |
| F btxsetoverflow         | F firstoftwoarguments      |
| F btxsetrighttext        | F gobbleoneargument        |
| F btxsetsecond           | F hbox                     |
| F btxsetsuffix           | F par                      |
| F btxsetsurnames         | F secondoftwoarguments     |
| F btxsettag              | F space                    |
| F btxsetvons             | F vbox                     |
| F btxstartauthor         | F vtop                     |
| F btxstartcite           | F ctxreport                |
| F btxstartciteauthor     | F definebodyfont           |
| F btxstartcombientry     | F definefontfallback       |
| F btxstartlistentry      | F definefontsynonym        |
| F btxstartsubcite        | F definetypeface           |
| F btxstopauthor          | F digitsdigit              |
| F btxstopcite            | F digitsfinalcomma         |
| F btxstopciteauthor      | F digitsfinalperiod        |
| F btxstopcombientry      | F digitshighspace          |
| F btxstoplistentry       | F digitsintermediatecomma  |
| F btxstopsubcite         | F digitsintermediateperiod |
| F btxsubcitesetup        | F digitsminus              |
| F buff_finish            | F digitsnegative           |
| F chemicalinline         | F digitsplus               |
| F chemicalspecial        | F digitsplusminus          |
| F color                  | F digitspositive           |
| F colordefagc            | F digitspower              |
| F colordefagt            | F digitspowerminus         |
| F colordefalc            | F digitspowerplus          |
| F colordefalt            | F digitsseparatorspace     |

|                               |                              |
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| F getmpextensions                | F groupsetgroup              |
| F getnaturaldimensions           | F grph_nodes_initialize      |
| F getnaturalwd                   | F grph_nodes_register        |
| F getnofpreviouslines            | F grph_nodes_reset           |
| F getnotestate                   | F grph_nodes_resolve         |
| F getnotestorecount              | F handlemathhang             |
| F getnotestoreflushed            | F hboxtovbox                 |
| F getobjectdimensions            | F heightofstring             |

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|-------------------------|------------------------------|
| F helpaction            | F initializemathcollapsing   |
| F helpreference         | F initializemathfencing      |
| F hour                  | F initializemathitalics      |
| F hpackbox              | F initializemathkernpairs    |
| F hpackedbox            | F initializemathnumbers      |
| F hsplit                | F initializemathspacing      |
| F hyphenateddigits      | F initializestream           |
| F hyphenatedlist        | F initializetexdirectives    |
| F hyphenationcodestring | F initializetexexperiments   |
| F ic                    | F initializetextrackers      |
| F idxfromluatable       | F injectcurrentreference     |
| F if_common             | F injectcurrentreferencehtdp |
| F ifallmodes            | F injectdisable              |
| F ifbitwiseand          | F injectnowhite              |
| F ifblobindexdone       | F injectreference            |
| F ifboxhaslist          | F injectvpenalty             |
| F ifcommon              | F injectvskip                |
| F ifeof                 | F injectvspacing             |
| F ifgluelineinbox       | F injectzerobaselineskip     |
| F ifinset               | F inlinechemical             |
| F iflua                 | F inputfilebarename          |
| F ifmode                | F inputfilename              |
| F ifmodes               | F inputfilerealsuffix        |
| F ifmvl                 | F inputfilesuffix            |
| F ifpositunum           | F insertattachment           |
| F ifsetups              | F insertcategorycodestring   |
| F ifsystemmode          | F insertcomment              |
| F iftext                | F insertfield                |
| F ifxml                 | F insertionnumber            |
| F ifxmlatt              | F insertoptioncodestring     |
| F ifxmlattempty         | F insertrenderingwindow      |
| F ifxmlempty            | F inspectluatable            |
| F ifxmlselfempty        | F installedlanguages         |
| F ifxmltext             | F installtexdirective        |
| F ignorefile            | F installtexexperiment       |
| F ignoretagsinexport    | F installtextracker          |
| F immediatemessage      | F interceptsamepagecontent   |
| F includesvgbuffer      | F it                         |
| F includesvgfile        | F jobfilefullname            |
| F incrementcounter      | F jobfilename                |
| F incrementsubcounter   | F jobfilesuffix              |
| F inhibitprimitive      | F jobposd                    |
| F initializeexport      | F jobposh                    |
| F initializejob         | F jobposp                    |

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|-------------------------------|----------------------------|
| F jobposw                     | F listsize                 |
| F jobposx                     | F listtitle                |
| F jobposy                     | F listuserdata             |
| F languagecharwidth           | F lmt_parameters_define    |
| F languagenumber              | F lmt_parameters_preset    |
| F lastblobindex               | F lmt_parameters_reset     |
| F lastnodeequals              | F loadcldfile              |
| F lastnodeid                  | F loadcldfileonce          |
| F lastnodeidstring            | F loadexamodes             |
| F lastnodesubtypestring       | F loadfontgoodies          |
| F lastparwrapper              | F loadlibrary              |
| F lastrpos                    | F loadluafile              |
| F lastsavedboxresourceindex   | F loadluafileonce          |
| F lastsavedimageresourceindex | F loadluamodule            |
| F lastsavedimageresourcepages | F loadmapfile              |
| F lastsectionpage             | F loadmapline              |
| F lastsubcountervalue         | F loadspellchecklist       |
| F lastunitstring              | F loadtexfile              |
| F lastxpos                    | F loadtexfileonce          |
| F lastypos                    | F loadtypescriptfile       |
| F lateindent                  | F loadvisualizer           |
| F latexlua                    | F loadxmlfile              |
| F lateundent                  | F loadxmlfileonce          |
| F lchexnumber                 | F localanchorx             |
| F lchexnumbers                | F localanchory             |
| F leapyear                    | F localboxindent           |
| F limited                     | F localboxindex            |
| F linebuffering               | F localboxlefthang         |
| F linedir                     | F localboxleftoffset       |
| F lineprofilebox              | F localboxleftskip         |
| F linesegment                 | F localboxlinenumber       |
| F listanchorcodestring        | F localboxlinewidth        |
| F listbookmark                | F localboxlocalwidth       |
| F listexternal                | F localboxmarkonce         |
| F listgroupindex              | F localboxovershoot        |
| F listlabel                   | F localboxparfillleftskip  |
| F listlocation                | F localboxparfillrightskip |
| F listnamespaces              | F localboxparinitleftskip  |
| F listprefixednumber          | F localboxparinitrightskip |
| F listprefixedpage            | F localboxprogress         |
| F listrawnumber               | F localboxrighthang        |
| F listrawrealpage             | F localboxrightoffset      |
| F listrawuserpage             | F localboxrightskip        |
| F listsigncodestring          | F localpopmacro            |

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|---------------------------|------------------------------|
| F localpushmacro          | F metapostgraphformat        |
| F locatefilepath          | F minute                     |
| F loopcs                  | F mixcleanup                 |
| F loopcsn                 | F mixfinalize                |
| F lousiness               | F mixflushlist               |
| F luacardinal             | F mixflushrest               |
| F luacount                | F mixgetsplit                |
| F luadimen                | F mixsetsplit                |
| F luaexpression           | F mixstate                   |
| F luafloat                | F modecodestring             |
| F luainteger              | F molecule                   |
| F luanumber               | F month                      |
| F luarandom               | F monthnmem                  |
| F luascript               | F monthname                  |
| F luathread               | F mpblobtext                 |
| F lxmlid                  | F mpcolor                    |
| F manipulated             | F mpgetblob                  |
| F markblobindexdone       | F mpgettext                  |
| F markcontent             | F mpgraphic                  |
| F markedpageparameter     | F mpgraphicxtxtoks           |
| F markedpages             | F mpoptions                  |
| F markingnumber           | F mpoutlinetoks              |
| F markingtitle            | F mppopvariables             |
| F markinjector            | F mppushvariables            |
| F markpage                | F mprunset                   |
| F markregionbox           | F mpruntab                   |
| F markregionboxcorrected  | F mprunvar                   |
| F markregionboxtagged     | F mpsetclippath              |
| F markregionboxtaggedkind | F mpsetoutercolor            |
| F markregionboxtaggedn    | F mpsetsxsy                  |
| F markvisualfonts         | F mpsettext                  |
| F mathclassvalue          | F mptexget                   |
| F mathcontrolcodestring   | F mptexreset                 |
| F mathhorizontalcode      | F mptexset                   |
| F mathoptioncodestring    | F mptexsetfrombuffer         |
| F mathrenderset           | F mptexttoks                 |
| F mathstrutcode           | F mvloptioncodestring        |
| F mathvariantcode         | F namedstructureuservariable |
| F mathvariantcount        | F namedstructurevariable     |
| F mathvariantslot         | F naturalwd                  |
| F maxbufferwidth          | F negatedcolorcomponent      |
| F message                 | F newarray                   |
| F metapostescaped         | F newhashedtable             |
| F metapostformatted       | F newindexedtable            |

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|----------------------------|-------------------------------|
| F newluatable              | F pageofinternal              |
| F newparwrapper            | F pageoverflow                |
| F newrepeatablerandom      | F pagestaterealpage           |
| F newstacking              | F pagestaterealpageorder      |
| F nextparallel             | F paragraphfillmodecodestring |
| F nextsubcountervalue      | F paragraphoptioncodestring   |
| F nodimen                  | F parcontextcodestring        |
| F nobufferlines            | F pardir                      |
| F nofconversions           | F parpasscallback             |
| F nofdays                  | F parpassidentifier           |
| F nofdetachedinsertions    | F parpos                      |
| F noflinesinbox            | F partriggercodestring        |
| F nofmathvariants          | F pdfbackendcurrentresources  |
| F nofstackedfloats         | F pdfbackendsetcatalog        |
| F nologbuffering           | F pdfbackendsetcolorspace     |
| F normalizecodestring      | F pdfbackendsetextgstate      |
| F normalizedbodyfontsize   | F pdfbackendsetinfo           |
| F normalizeparcodestring   | F pdfbackendsetname           |
| F nospacesmodecodestring   | F pdfbackendsetpageattribute  |
| F notedeltapage            | F pdfbackendsetpageresource   |
| F noteinternal             | F pdfbackendsetpagesattribute |
| F notelistindex            | F pdfbackendsetpattern        |
| F noteprefixednumber       | F pdfbackendsetshade          |
| F notetitle                | F pdfcolor                    |
| F ntb_split_section_check  | F pdfextension                |
| F ntb_split_section_fetch  | F pdffeedback                 |
| F ntb_split_section_locate | F pdflastobj                  |
| F ntb_split_section_reset  | F pdfliteral                  |
| F ntimes                   | F pdfobj                      |
| F number                   | F pdfrefobj                   |
| F numbers                  | F pdfsetuserdata              |
| F objectreference          | F pdfvariable                 |
| F objectreferencepage      | F percentageof                |
| F octnumber                | F pfabs                       |
| F openin                   | F pfacos                      |
| F openout                  | F pfacosh                     |
| F operatingsystem          | F pfasin                      |
| F ordinal                  | F pfasinh                     |
| F outputfilename           | F pfatan                      |
| F overloadbookmark         | F pfatanh                     |
| F overloadlowercase        | F pfatantwo                   |
| F overloadsattribute       | F pfceil                      |
| F overloaduppercase        | F pfcos                       |
| F pageblockrealpage        | F pfcosh                      |

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|-------------------------------|---------------------------|
| F pfddeg                      | F presetmathfontalternate |
| F pfexp                       | F presetsymbolist         |
| F pffloor                     | F previoussubcountervalue |
| F pflog                       | F privatecharacter        |
| F pfmod                       | F privatecharactercode    |
| F pfpow                       | F processbodyfontsizes    |
| F pfrad                       | F processbuffer           |
| F pfrem                       | F processcollectedmath    |
| F pfround                     | F processedfile           |
| F pfsin                       | F processedfiles          |
| F pfsinh                      | F processfile             |
| F pfsqrt                      | F processfilemany         |
| F pftan                       | F processfilenone         |
| F pftanh                      | F processfileonce         |
| F pgfxcolorspec               | F processjob              |
| F pickupbuffer                | F processlist             |
| F pickupmarkedcontent         | F processregister         |
| F pickuppunctuation           | F processsplit            |
| F placeparallel               | F processsynonyms         |
| F popfloat                    | F product                 |
| F pophyphenation              | F profilebox              |
| F poplist                     | F profilemacro            |
| F poplocalanchors             | F project                 |
| F poplogfile                  | F pruneboxesincache       |
| F popparagraphtweak           | F purefontname            |
| F poppath                     | F pushfloat               |
| F poprandomseed               | F pushhyphenation         |
| F popreferenceprefix          | F pushlist                |
| F popregime                   | F pushlocalanchors        |
| F poprunstate                 | F pushlogfile             |
| F popsectionblock             | F pushparagraphtweak      |
| F positunum                   | F pushpath                |
| F positunumdef                | F pushrandomseed          |
| F postlistbox                 | F pushreferenceprefix     |
| F postlistcopy                | F pushregime              |
| F postponeotes                | F pushrunstate            |
| F prefixedconverted           | F pushsectionblock        |
| F prelistbox                  | F pushstream              |
| F prelistcopy                 | F putboxincache           |
| F preparecolumnsetflush       | F putincolumnset          |
| F prerolledpages              | F putincolumnsetdirect    |
| F presetcolumnsetsheets       | F putnextboxincache       |
| F presetcolumnsetspreadsheets | F qrbuffer                |
| F presetmathematics           | F qrstring                |

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|---------------------------------|------------------------------|
| F rawMPdata                     | F registerlanguagefeatures   |
| F rawcharacter                  | F registerlinenumbering      |
| F rawsetupstring                | F registermaintextcolor      |
| F rawsubcountervalue            | F registermpextensible       |
| F read                          | F registernamedlua           |
| F readfromterminal              | F registernamespace          |
| F readline                      | F registerobject             |
| F readlinedirect                | F registerpattern            |
| F recolorbox                    | F registerpostponedblock     |
| F referencecolumn               | F registerreferencedobject   |
| F referencepagedetail           | F registerrendering          |
| F referencepagestate            | F registersection            |
| F referenceposx                 | F registershownsynonym       |
| F referenceposy                 | F registersnaprange          |
| F referencerealpage             | F registerstructureprocessor |
| F registeranchorbox             | F registersynchronize        |
| F registerattachment            | F registersynonym            |
| F registerbackendsymbol         | F registertransliteration    |
| F registerbackground            | F registerunit               |
| F registerbodyfontsize          | F registerunitshortcut       |
| F registerbookmark              | F registerunknownbodysize    |
| F registerboxglyph              | F registerusedsynonym        |
| F registerbuttons               | F registeruserdata           |
| F registercolorintent           | F registerverbosemathlabel   |
| F registercolumnsetarea         | F removelastring             |
| F registercolumnsetsheet        | F renderingvar               |
| F registercolumnsetspreadsheets | F reorderfloats              |
| F registerengineclass           | F replacefeature             |
| F registerfallbackfont          | F replacepospxywhd           |
| F registerfiguremask            | F replacewildcard            |
| F registerfigurepattern         | F reportstructure            |
| F registerfigurerange           | F resavefloat                |
| F registerfiguresuffix          | F reservedautoregiontag      |
| F registerfilescheme            | F resetMPinstance            |
| F registerfontalternative       | F resetalternate             |
| F registerfontfamily            | F resetbackgroundrowdata     |
| F registerforcedbreak           | F resetboxesincache          |
| F registergroupset              | F resetcharacteralign        |
| F registerhashedfiles           | F resetcolumnset             |
| F registerhelp                  | F resetcomparingtext         |
| F registerhyphenationexception  | F resetcounter               |
| F registerhyphenationpattern    | F reseteffect                |
| F registeritemgroup             | F resetfeature               |
| F registerlabel                 | F resetfontfeature           |

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|----------------------------|---------------------------|
| F resetfontsolution        | F savedlistprefixednumber |
| F resetforcedbreak         | F savedlisttitle          |
| F resetinjector            | F savefloat               |
| F resetlogfile             | F saveimagesresource      |
| F resetmapfiles            | F savemargindata          |
| F resetmathattributes      | F savenote                |
| F resetnullfont            | F savepagedata            |
| F resetparallel            | F savepageinjections      |
| F resetpath                | F saveparallel            |
| F resetreference           | F savepos                 |
| F resetscript              | F savespecificfloat       |
| F resetstructureprocessor  | F savestructureblock      |
| F resetsubcounter          | F scangivendimensions     |
| F resetsynchronizemarking  | F scriptsmodecodestring   |
| F resetsynonyms            | F second                  |
| F resettimer               | F selectstructureblock    |
| F resettrackers            | F set_extensible_data     |
| F resolvedemoji            | F setadaptive             |
| F restartcounter           | F setalternate            |
| F restartsubcounter        | F setautoprefix           |
| F restorecounter           | F setbackgroundrowdata    |
| F restorecurrentattributes | F setboxglyph             |
| F restorenote              | F setboxline              |
| F restoreobject            | F setbreakpoints          |
| F reuserandomseed          | F setcharacteralign       |
| F reverseboxcontent        | F setcharacteraligndetail |
| F revivefeature            | F setcharactercasing      |
| F rightmathkern            | F setcharactercleaning    |
| F romannumerals            | F setcharacterkerning     |
| F rotateparshape           | F setcharacterspacing     |
| F rounded                  | F setcharacterstripping   |
| F roundedfill              | F setcloseddocumentaction |
| F roundedoutline           | F setclosepageaction      |
| F ruby                     | F setcolormodel           |
| F ruleoptioncodestring     | F setcolumnsetarea        |
| F runcontextjob            | F setcolumnsetlines       |
| F safechar                 | F setcolumnsetmvl         |
| F samplefile               | F setcolumnsetpresent     |
| F saveboxresource          | F setcolumnsetproperties  |
| F savebuffer               | F setcolumnsetstart       |
| F savecounter              | F setcomparetext          |
| F savecurrentattributes    | F setcomparingtext        |
| F savecurrentvalue         | F setcounter              |
| F savedlistnumber          | F setdataset              |

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|------------------------------|-----------------------------|
| F setdestinationattribute    | F setjavascriptpreamble     |
| F setdigitsmanipulation      | F setjobcomment             |
| F setdirection               | F setlanguageexceptions     |
| F setdocumentargument        | F setlanguageoptions        |
| F setdocumentcommandline     | F setlanguagepatterns       |
| F setdocumentctxfile         | F setlanguagesynonym        |
| F setdocumentdefaultargument | F setlinefiller             |
| F setdocumentenvironments    | F setlineprofile            |
| F setdocumentfilename        | F setlocalalignanchor       |
| F setdocumentfilenames       | F setlocalmarkanchor        |
| F setdocumentmodes           | F setlocalsyncanchor        |
| F setdocumentmodules         | F setluatable               |
| F seteffect                  | F setmathalphabet           |
| F setelementbackendtag       | F setmathattribute          |
| F setelementnature           | F setmathfontalternate      |
| F setextrafontkerns          | F setmathfontstyle          |
| F setfieldcalculationset     | F setmathsnapping           |
| F setfigureconversion        | F setmathvariant            |
| F setfigurelookuporder       | F setmetaglyph              |
| F setfigurepaths             | F setmpextensions           |
| F setfirstline               | F setnaturalwd              |
| F setfontfeature             | F setnegative               |
| F setfontofid                | F setnextinternalreferences |
| F setfontsolution            | F setnextreferenceorder     |
| F setformat                  | F setnotestate              |
| F setformsmethod             | F setopendocumentaction     |
| F setsizecolumnset           | F setopenpageaction         |
| F setsizecolumnspan          | F setowncounter             |
| F sethyphenatedurlcharacters | F setownsubcounter          |
| F sethyphenationfeatures     | F setpagecolormodel         |
| F sethyphenationmethod       | F setpagestate              |
| F setidentityvariable        | F setpagestaterealpageno    |
| F setinitial                 | F setpagetransition         |
| F setinitialsectionblock     | F setparagraphmetashape     |
| F setinjector                | F setparagraphshape         |
| F setinsertionlocation       | F setparbuilder             |
| F setinsertmigration         | F setparwrapper             |
| F setinterfaceconstant       | F setpdfcompression         |
| F setinterfaceelement        | F setperiodkerning          |
| F setinterfacemessage        | F setpostlistbox            |
| F setinterfacemessages       | F setprelistbox             |
| F setinterfacevariable       | F setprofile                |
| F setinternalreference       | F setrandomseed             |
| F setitaliccorrection        | F setrealign                |

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|--------------------------|---------------------------------|
| F setrealspaces          | F settagpublication             |
| F setreferencelinkmethod | F settagregister                |
| F setregionbox           | F settagsetreferencedescription |
| F setregionboxtagged     | F settagsorting                 |
| F setregistermethod      | F settagssubsentencesymbol      |
| F setreplacements        | F settagssynonym                |
| F setruby                | F settagtablecell               |
| F setrule                | F settagtabulatecell            |
| F setscript              | F settransliteration            |
| F setsectionblock        | F setupbookmarks                |
| F setsectionentry        | F setupcanvas                   |
| F setshadow              | F setupcharacterspacing         |
| F setshift               | F setupcomparingtext            |
| F setsofthyphens         | F setupexport                   |
| F setsplitlisthtdp       | F setupfontexpansion            |
| F setstacking            | F setupfontprotrusion           |
| F setstructureblockstate | F setupinsertion                |
| F setstructurelevel      | F setuplinenumbers              |
| F setstructurenumber     | F setupsynctex                  |
| F setsubcounter          | F setupusermetadata             |
| F settagcodepoint        | F setupviewerlayer              |
| F settagcombination      | F setvisual                     |
| F settagcombinationpair  | F setvisualfont                 |
| F settagconstruct        | F setvisualallayer              |
| F settagdelimitedsymbol  | F setvisuals                    |
| F settagdescriptionindex | F setvsizecolumnset             |
| F settagfigure           | F setxmpfile                    |
| F settagfloat            | F shiftmatrixornaments          |
| F settagformulacontent   | F shiftparshape                 |
| F settaggedmetadata      | F shipoutpage                   |
| F settaggingcomment      | F showarray                     |
| F settaggingoption       | F showassignerror               |
| F settaggingpresets      | F showattributes                |
| F settaghighlight        | F showbits                      |
| F settagitem             | F showboxinbuffer               |
| F settagitemgroup        | F showbtxdatasetauthors         |
| F settaglist             | F showbtxdatasetcompleteness    |
| F settagmarginanchor     | F showbtxdatasetfields          |
| F settagmarginintext     | F showbtxentry                  |
| F settagmpgraphic        | F showbtxfields                 |
| F settagnotation         | F showbtxhashedauthors          |
| F settagnotationsymbol   | F showbtxtables                 |
| F settagparagraph        | F showbtxvariants               |
| F settagproperty         | F showchardata                  |

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|---------------------------------|-------------------------|
| F showcounter                   | F startcollectingmath   |
| F showdirectives                | F startcolorset         |
| F showdiscretionaries           | F startcomponent        |
| F showexperiments               | F startenvironment      |
| F showfontparameters            | F startfontsolution     |
| F showhyphenatedinlist          | F startgraphicgroup     |
| F showhyphenationtrace          | F startlocalcomponent   |
| F showinjector                  | F startmarkpages        |
| F showjustification             | F startmatrix           |
| F showlogcategories             | F startmirroring        |
| F showluatables                 | F startpageblock        |
| F showluatokens                 | F startparbuilder       |
| F showmacrostack                | F startprerollpageblock |
| F showmessage                   | F startproduct          |
| F showpagelist                  | F startproject          |
| F showparagraphshape            | F startregime           |
| F showprofiledmacros            | F startrotation         |
| F showstructure                 | F startruby             |
| F showtrackers                  | F startscaling          |
| F silliness                     | F startsectionlevel     |
| F simplealign                   | F startstream           |
| F simplecases                   | F starttext             |
| F simplematrix                  | F startviewerlayer      |
| F sin                           | F step                  |
| F sind                          | F stopactualtext        |
| F sl                            | F stopalternativetext   |
| F spaceddigits                  | F stopchemical          |
| F spacefactorcodestring         | F stopclipping          |
| F spaceskipcodestring           | F stopcollectingmath    |
| F special                       | F stopcolorset          |
| F specificationoptioncodestring | F stopcomponent         |
| F specifiedfont                 | F stopenvironment       |
| F specifiedfontsize             | F stopfontsolution      |
| F specifiedfontspec             | F stopgraphicgroup      |
| F splitfilename                 | F stoplocalcomponent    |
| F splitsamplefile               | F stopmarkpages         |
| F spotcolorname                 | F stopmatrix            |
| F spotcolorparent               | F stopmirroring         |
| F spotcolorvalue                | F stoppageblock         |
| F squid_check                   | F stopparbuilder        |
| F startactualtext               | F stopprerollpageblock  |
| F startalternativetext          | F stopproduct           |
| F startchemical                 | F stopproject           |
| F startclipping                 | F stopregime            |

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| F stoprotation                          | F synchronizemarking       |
| F stopscaling                           | F synchronizesteps         |
| F stopsectionlevel                      | F synchronizestream        |
| F stopstream                            | F syntexblockfilename      |
| F stoptext                              | F syntexdisable            |
| F stopviewerlayer                       | F syntexpause              |
| F storejavascriptcode                   | F syntexpopline            |
| F storejavascriptpreamble               | F syntexpushline           |
| F storenote                             | F syntexresetfilename      |
| F storeregister                         | F syntexresume             |
| F strc_tags_document_pop                | F syntexsetfilename        |
| F strc_tags_document_push               | F synonymfirstuserpage     |
| F strc_tags_get_element_tag             | F synonymmeaning           |
| F strc_tags_parcounter_pop              | F synonymname              |
| F strc_tags_parcounter_push             | F synonympages             |
| F strc_tags_set_aspect                  | F synonymuserpages         |
| F strc_tags_set_element_user_properties | F systemlog                |
| F strc_tags_start                       | F tabl_ntb_get_sec         |
| F strc_tags_start_chained               | F tabl_ntb_set_sec         |
| F strc_tags_start_detail                | F tagmfunctionlab          |
| F strc_tags_start_ignore                | F tagmfunctionlabattribute |
| F strc_tags_start_userdata              | F tan                      |
| F strc_tags_stop                        | F tand                     |
| F stringtoorientation                   | F textdir                  |
| F stripinserts                          | F textime                  |
| F structureautocatcodedget              | F tf                       |
| F structureblockuservariable            | F thebox                   |
| F structurecatcodedget                  | F thefirstcharacter        |
| F structuregivenecatcodedget            | F themaxboxwidth           |
| F structurenumber                       | F theremainingcharacters   |
| F structuretitle                        | F tightfitcompensation     |
| F structureuservariable                 | F timestring               |
| F structurevariable                     | F tobigpoints              |
| F subcountervalue                       | F tobit                    |
| F subsubcountervalue                    | F tobits                   |
| F subtocolumnsetmvl                     | F tochar                   |
| F subtocolumnsetmvlbalance              | F tohexa                   |
| F subtractfeature                       | F toorientation            |
| F svghashed                             | F totalofstring            |
| F sync                                  | F tounicharnum             |
| F synccolor                             | F towholebigpoints         |
| F synccolorclone                        | F transliterate            |
| F synccolorcount                        | F transliteratebuffer      |
| F synchronizelocalanchors               | F transliterated           |

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|----------------------------|-------------------------------------|
| F transliteratedbuffer     | F usesymbols                        |
| F transliterationexception | F usetransliteration                |
| F traverseblock            | F useurl                            |
| F traversemath             | F usezipfile                        |
| F triggerpagebuilder       | F utfchar                           |
| F truefilename             | F utflower                          |
| F truefontname             | F utfmathclass                      |
| F type                     | F utfmathcommand                    |
| F typebuffer               | F utfmathcommandfiller              |
| F typefile                 | F utfmathfiller                     |
| F uchar                    | F utfmathstretch                    |
| F uchexnumber              | F utfshape                          |
| F uchexnumbers             | F utfstrip                          |
| F undefinechemical         | F utfupper                          |
| F unicodechar              | F uuid                              |
| F unihex                   | F vboxlisttohbox                    |
| F unit                     | F verbose                           |
| F unloadlanguage           | F vpackbox                          |
| F unstripinserts           | F vpackedbox                        |
| F unsupportedcs            | F way                               |
| F useMPLibrary             | F weekday                           |
| F useanyfile               | F weekdayname                       |
| F useanyfileonce           | F widthofstring                     |
| F useboxresource           | F widthuptohere                     |
| F usecolors                | F write                             |
| F usecomponent             | F writeline                         |
| F useenvironment           | F writestatus                       |
| F usefigurebase            | F writestring                       |
| F usefile                  | F x_table_c                         |
| F useimageresource         | F x_table_cleanup                   |
| F usejavascriptpreamble    | F x_table_construct                 |
| F usejavascriptscripts     | F x_table_create                    |
| F uselibrary               | F x_table_finish_row                |
| F uselist                  | F x_table_flush                     |
| F useluamodule             | F x_table_init_construct            |
| F useluatable              | F x_table_init_reflow_height        |
| F usemathpluginlibrary     | F x_table_init_reflow_height_option |
| F usemodules               | F x_table_init_reflow_width         |
| F usepath                  | F x_table_init_reflow_width_option  |
| F useproduct               | F x_table_next_row                  |
| F useproject               | F x_table_next_row_option           |
| F useresources             | F x_table_r                         |
| F useresources             | F x_table_reflow_height             |
| F usesubpath               | F x_table_reflow_width              |

|                             |                       |
|-----------------------------|-----------------------|
| F x_table_set_construct     | F xmldoifselfempty    |
| F x_table_set_reflow_height | F xmldoiftext         |
| F x_table_set_reflow_width  | F xmlerulement        |
| F xmladdindex               | F xmlfileline         |
| F xmlaftersetup             | F xmlfilename         |
| F xmlall                    | F xmlfilter           |
| F xmlappendsetup            | F xmlfilterlist       |
| F xmlapplyselectors         | F xmlfirst            |
| F xmlatt                    | F xmlflush            |
| F xmlattdef                 | F xmlflushcontext     |
| F xmlattribute              | F xmlflushlinewise    |
| F xmlattributedef           | F xmlflushpure        |
| F xmlbadinclusions          | F xmlflushsetups      |
| F xmlbeforesetup            | F xmlflushspacewise   |
| F xmlchainatt               | F xmlflushstext       |
| F xmlchainattdef            | F xmlformulatobuffer  |
| F xmlchecknamespace         | F xmlfunction         |
| F xmlcommand                | F xmlgetindex         |
| F xmlconcat                 | F xmlinclude          |
| F xmlconcatrange            | F xmlincludeoptions   |
| F xmlcontext                | F xmlinclusion        |
| F xmlcount                  | F xmlinclusionbase    |
| F xmlcssmappedstylevalue    | F xmlinclusions       |
| F xmlcssstylevalue          | F xmlindex            |
| F xmldelete                 | F xmlinlineverbatim   |
| F xmldepth                  | F xmlinstalldirective |
| F xmldirect                 | F xmllast             |
| F xmldirectives             | F xmllastatt          |
| F xmldirectivesafter        | F xmllastmatch        |
| F xmldirectivesbefore       | F xmllastpar          |
| F xmldisplayverbatim        | F xmlloadbuffer       |
| F xmldoif                   | F xmlloaddata         |
| F xmldoifatt                | F xmlloaddirectives   |
| F xmldoifelse               | F xmlloadentities     |
| F xmldoifelseatt            | F xmlloadfile         |
| F xmldoifelseempty          | F xmlmain             |
| F xmldoifelseselfempty      | F xmlmatch            |
| F xmldoifelsestext          | F xmlname             |
| F xmldoifempty              | F xmlnamespace        |
| F xmldoifnot                | F xmlnonstpace        |
| F xmldoifnotatt             | F xmlpar              |
| F xmldoifnotempty           | F xmlparam            |
| F xmldoifnotselfempty       | F xmlpath             |
| F xmldoifnotstext           | F xmlpopmatch         |

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|-----------------------|-----------------------|
| F xmlpos              | F xmlwithindex        |
| F xmlprependsetup     | F year                |
| F xmlpure             | T containers          |
| F xmlpushmatch        | F cleanname           |
| F xmlraw              | F content             |
| F xmlrawtex           | F define              |
| F xmlrefatt           | F is_usable           |
| F xmlregisterns       | F is_valid            |
| F xmlreapname         | F read                |
| F xmlreapnamespace    | B usecache            |
| F xmlremovesetup      | F write               |
| F xmlresetinjectors   | T context             |
| F xmlresetsetups      | F bc                  |
| F xmlsave             | F bgroup              |
| F xmlsetatt           | F char                |
| F xmlsetattribute     | F concat              |
| F xmlsetcommandtonone | D conditionals        |
| F xmlsetcommandtotext | F cssdimension        |
| F xmlsetentity        | F ctxescape           |
| F xmlsetinjectors     | F ctxescaped          |
| F xmlsetpar           | F direct              |
| F xmlsetparam         | F egroup              |
| F xmlsetsetup         | F escape              |
| F xmlsnippet          | F escaped             |
| F xmlstartraw         | F firstofoneargument  |
| F xmlstarttiming      | F firstoftwoarguments |
| F xmlstopraw          | F fprint              |
| F xmlstoptiming       | F getlogger           |
| F xmlstrip            | F glyph               |
| F xmlstripanywhere    | F gobbleoneargument   |
| F xmlstripeverything  | F latelua             |
| F xmlstripnolines     | F loadfile            |
| F xmlstripped         | F loadviafile         |
| F xmlstrippednolines  | D modes               |
| F xmltag              | F newindexer          |
| F xmltexatt           | F newtexthandler      |
| F xmltexentity        | F newverbosehandler   |
| F xmltext             | F nr                  |
| F xmltobuffer         | F par                 |
| F xmltobuffertextonly | F popcatcodes         |
| F xmltobufferverbose  | F poplogger           |
| F xmltofile           | F printlines          |
| F xmltoparameters     | F printtable          |
| F xmlverbatim         | F protect             |

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|-----------------------------|-----------------------|
| F pushcatcodes              | F Romannumerals       |
| F pushlogger                | F Russiannumerals     |
| F rule                      | F Sloveniannumerals   |
| F runfile                   | F Spanishnumerals     |
| F runstring                 | F Word                |
| F safechar                  | F Words               |
| F secondoftwoarguments      | F a                   |
| F setconditional            | F a:es                |
| F setfontid                 | F a:ru                |
| F setmode                   | F a:sl                |
| F setsystemmode             | F abjadnodotnumerals  |
| F settracing                | F abjadnumerals       |
| F settrialtypesettingmethod | F alphabetic          |
| F space                     | F alphabetic:es       |
| F sprint                    | F alphabetic:ru       |
| F startcollecting           | F alphabetic:sl       |
| F step                      | F character           |
| F stepwise                  | F characters          |
| F stopcollecting            | F chineseallnumerals  |
| D systemmodes               | F chineseacapnumerals |
| F tobuffer                  | F chinesedatenumerals |
| D tokenizedcs               | F chinesenumerals     |
| F tolines                   | F chr                 |
| F trialtypesetting          | F chrs                |
| F unprotect                 | F cn                  |
| F utfchar                   | F cn-a                |
| F viafile                   | F cn-c                |
| T converters                | F cn-d                |
| F A                         | F convert             |
| F A:es                      | F decimals            |
| F A:ru                      | F define              |
| F A:sl                      | F gregorian_to_hebrew |
| F AK                        | F gregorian_to_jalali |
| F Alphabetic                | F hebrenumerals       |
| F Alphabetic:es             | F hexstringtonumber   |
| F Alphabetic:ru             | F i                   |
| F Alphabetic:sl             | F isleapyear          |
| F Character                 | F jalali_to_gregorian |
| F Characters                | F lchexnumber         |
| F I                         | F lchexnumbers        |
| F KA                        | F leapyear            |
| F KR                        | F lower               |
| F R                         | F max                 |
| F RK                        | F maxchrs             |

|                     |                         |
|---------------------|-------------------------|
| F nicenumber        | F traceback             |
| F nofdays           | F dimen                 |
| F number            | T dir                   |
| F numbers           | F collectpattern        |
| F octnumber         | F current               |
| F octstringtonumber | F expandlink            |
| F ordinal           | F expandname            |
| F r                 | F found                 |
| F romannumerals     | F glob                  |
| F russiannumerals   | F globdirs              |
| D sequences         | F globfiles             |
| F settime           | F globpattern           |
| F sloveniannumerals | F ls                    |
| F spaceddigits      | F makedirs              |
| F spanishnumerals   | F mkdirs                |
| F textime           | F pop                   |
| F toabjad           | F push                  |
| F tochinese         | T directives            |
| F tohebrew          | D data                  |
| F toroman           | F default               |
| F totime            | F disable               |
| F uchexnumber       | F enable                |
| F uchexnumbers      | F list                  |
| F upper             | S name                  |
| F weekday           | F register              |
| F word              | F report                |
| F words             | F reset                 |
| T coroutine         | F show                  |
| F close             | F value                 |
| F create            | F values                |
| F isyieldable       | T document              |
| F resume            | D arguments             |
| F running           | F getargument           |
| F status            | F getfilename           |
| F wrap              | F pdf_cleanup_cidsets   |
| F yield             | F pdf_cleanup_procsets  |
| T ctxrunner         | F pdf_identify_content  |
| F load              | F pdf_serialize_content |
| F preparedfile      | F pdf_strip_content     |
| D prepfiles         | F pdf_strip_page        |
| F resolve           | F setargument           |
| T debug             | F setcommandline        |
| F getinfo           | F setdefaultargument    |
| F sethook           | F setenvironments       |

|   |                    |   |                        |
|---|--------------------|---|------------------------|
| F | setfilename        | D | engineflags            |
| F | setfilenames       | S | filename               |
| F | setmodes           | D | filesynonyms           |
| F | setmodules         | N | forcedruns             |
| D | variables          | F | getargument            |
| T | documentdata       | F | globfiles              |
| F | variable           | S | homedir                |
| F | dofile             | B | initex                 |
| T | drivers            | B | initexmode             |
| F | applyanchor        | F | initializearguments    |
| F | applyorientation   | F | initializefilenames    |
| F | convert            | S | inputfilebarename      |
| F | enable             | S | inputfilename          |
| F | finalize           | S | inputfilesuffix        |
| F | gethpos            | S | jobfilefullname        |
| F | gethvrpos          | S | jobfilename            |
| F | getpos             | S | jobfilesuffix          |
| F | getrpos            | N | kindofrun              |
| F | getvpos            | N | lmtxmode               |
| F | initialize         | F | loadexamodes           |
| F | install            | F | loadluafile            |
| N | lmtxversion        | F | luafile                |
| F | outputfilename     | F | luafilechunk           |
| F | report             | S | luatexengine           |
| T | effects            | N | luatexfunctionality    |
| F | getoctaveloops     | S | luatexverbose          |
| F | getoctavemethods   | N | luatexversion          |
| F | getoctavestatus    | N | maxnofruns             |
| F | getoctavevariants  | S | oldhome                |
| F | newoctave          | D | originalarguments      |
| F | octave             | S | outputfilename         |
| F | octavebytemap      | S | ownbin                 |
| F | perlinnoise        | S | ownmain                |
| F | simplexangle       | S | ownname                |
| F | simplexdetail      | S | ownpath                |
| F | simplexnoise       | B | prerollrun             |
| F | stepoctave         | D | rawarguments           |
| T | environment        | F | reconstructcommandline |
| F | argument           | F | relativepath           |
| D | arguments          | F | setargument            |
| D | basicengines       | F | splitarguments         |
| N | currentrun         | S | suffix                 |
| F | definefilefallback | F | texfile                |
| F | definefilesynonym  | S | texmfos                |

|   |               |   |                  |
|---|---------------|---|------------------|
| S | texos         | F | get              |
| S | texroot       | F | getinfo          |
| F | truefilename  | F | getpdfinfo       |
| F | uselua module | F | getrealpage      |
| F | usemodules    | F | guess            |
| D | validengines  | F | guessfromstring  |
| S | version       | F | hash             |
| F | error         | D | identifiers      |
| T | experiments   | F | identify         |
| D | data          | F | include          |
| F | default       | D | includers        |
| F | disable       | F | initialize       |
| F | enable        | D | loaded           |
| F | list          | D | localpaths       |
| S | name          | D | magics           |
| F | register      | F | mergegoodies     |
| F | report        | N | nofmissing       |
| F | reset         | N | nofprocessed     |
| F | show          | D | order            |
| F | value         | D | paths            |
| F | values        | D | patterns         |
| T | figures       | F | pop              |
| F | applyratio    | B | preferquality    |
| F | badname       | D | programs         |
| D | bases         | F | push             |
| F | bitmapimage   | F | qrcode           |
| N | boxnumber     | F | registerpattern  |
| F | bytepalette   | F | registerresource |
| D | cachepaths    | F | registersuffix   |
| F | check         | D | remappers        |
| D | checkers      | D | resources        |
| D | conversions   | F | scale            |
| D | converters    | F | set              |
| F | current       | F | setconversion    |
| N | defaultdepth  | F | setlookups       |
| N | defaultheight | F | setorder         |
| B | defaultsearch | F | setpaths         |
| N | defaultwidth  | D | suffixes         |
| F | done          | D | used             |
| F | dummy         | T | file             |
| D | exists        | F | addsuffix        |
| F | exists        | F | basename         |
| D | formats       | F | checksum         |
| D | found         | F | collapsepath     |

|                     |                     |
|---------------------|---------------------|
| F copy              | F readcardinal3     |
| F dirname           | F readcardinal3le   |
| F expandname        | F readcardinal4     |
| F extname           | F readcardinal4le   |
| F is_qualified_path | F readcardinaltable |
| F is_readable       | F readcline         |
| F is_rootbased_path | F readcstring       |
| F is_writable       | F readdouble        |
| F isreadable        | F readdoublele      |
| F iswritable        | F readfixed2        |
| F join              | F readfixed4        |
| F joinpath          | F readfloat         |
| F loadchecksum      | F readfloatle       |
| F nameonly          | F readinteger1      |
| F nametotable       | F readinteger1le    |
| F needs Updating    | F readinteger2      |
| F needsupdating     | F readinteger2le    |
| F pathpart          | F readinteger3      |
| F readdata          | F readinteger3le    |
| F removesuffix      | F readinteger4      |
| F replacesuffix     | F readinteger4le    |
| F reslash           | F readintegertable  |
| F robustname        | F setposition       |
| F savechecksum      | F skipposition      |
| F savedata          | F writecardinal1    |
| F size              | F writecardinal1le  |
| F splitbase         | F writecardinal2    |
| F splitname         | F writecardinal2le  |
| F splitpath         | F writecardinal3    |
| F suffix            | F writecardinal3le  |
| F suffixes          | F writecardinal4    |
| F suffixesonly      | F writecardinal4le  |
| F suffixonly        | F writedouble       |
| F syncmtimes        | F writedoublele     |
| F withinbase        | F writefloat        |
| T fio               | F writefloatle      |
| F getposition       | T floats            |
| F read2dot14        | F analysemethod     |
| F readbytes         | F checkedpagefloat  |
| F readbytetable     | F collect           |
| F readcardinal1     | F consult           |
| F readcardinal1le   | F flush             |
| F readcardinal2     | F getvariable       |
| F readcardinal2le   | F hasstacked        |

|   |                        |   |                     |
|---|------------------------|---|---------------------|
| F | nofstacked             | F | registersanitizer   |
| F | pop                    | F | reserveid           |
| F | push                   | F | toeffect            |
| F | resave                 | T | functions           |
| F | save                   | F | dummy               |
| F | stacked                | F | getmetatable        |
| T | font                   | T | globaldata          |
| F | addcharacters          | N | CONTEXTLMTXMODE     |
| F | addquality             | N | LUAFORMAT           |
| F | current                | N | LUAMAJORVERSION     |
| F | define                 | N | LUAMINORVERSION     |
| F | getfont                | S | LUATEXENGINE        |
| F | getfontdimen           | N | LUATEXFORMATID      |
| F | getfontfields          | N | LUATEXFUNCTIONALITY |
| F | getfontspec            | S | LUATEXVERBOSE       |
| F | getmathcharacterfields | N | LUATEXVERSION       |
| F | getmathindex           | N | LUAVERSION          |
| F | getmathspec            | F | SAVEDREQUIRE        |
| F | getparameterfields     | F | assert              |
| F | gettextcharacterfields | F | characterkern       |
| F | id                     | F | collectgarbage      |
| F | max                    | F | dimen               |
| F | nextid                 | F | dofile              |
| F | setfont                | F | error               |
| F | setfontdimen           | F | getmetatable        |
| F | xscaled                | T | graphics            |
| F | yscaled                | T | backgrounds         |
| T | fonts                  | F | fetchmultipar       |
| F | current                | F | pair                |
| F | currentid              | F | path                |
| F | definitypeface         | F | point               |
| F | enhanceid              | T | bitmaps             |
| D | expansions             | F | flush               |
| D | formats                | F | load                |
| F | getalternate           | T | loaders             |
| F | getindices             | F | jpeg                |
| F | getkern                | F | jpg                 |
| F | getmultiple            | F | png                 |
| F | getsubstitution        | F | new                 |
| F | infofont               | F | placeholder         |
| F | mode                   | F | tocontext           |
| D | names                  | F | bpsize              |
| D | nulldata               | T | colorspaces         |
| D | protrusions            | T | identifiers         |

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|------------------------|--------------------------|
| F bitmap               | T fields                 |
| F jp2                  | F clone                  |
| F jpeg                 | F define                 |
| F jpg                  | F defineset              |
| F png                  | F insert                 |
| F identify             | T general                |
| F registerpdfcompactor | F getidentity            |
| F registerpdffont      | F getidentityvariable    |
| T synchronizers        | T help                   |
| F collapse             | F collect                |
| F collect              | F reference              |
| F extend               | F register               |
| F getbottom            | T javascripts            |
| F getd                 | F addtopreamble          |
| F geth                 | F code                   |
| F getkind              | D codes                  |
| F getsize              | F flushpreambles         |
| F gettask              | D functions              |
| F gettop               | D preambles              |
| F getw                 | F setpreamble            |
| F getx                 | F storecode              |
| F gety                 | F storepreamble          |
| F prune                | F usepreamblenow         |
| T gzip                 | F usescripts             |
| F compress             | D linkedlists            |
| F compressed           | T pages                  |
| F decompress           | F setpagetransition      |
| F load                 | F setupcanvas            |
| F save                 | T references             |
| F suffix               | F setclosedocumentaction |
| T helper               | F setclosepageaction     |
| F getprofile           | F setopendocumentaction  |
| F mathnested           | F setopenpageaction      |
| F mathprocess          | D renderings             |
| F mathstep             | T interfaces             |
| F snapindeed           | T arrays                 |
| F snaplist             | D cachedsetup            |
| F traversecharmmethod  | F cachesetup             |
| F traverseglyphmethod  | T cardinals              |
| F traversehorizontal   | F checkedspecification   |
| F traversevertical     | D complete               |
| F inspect              | D constants              |
| T interactions         | D corenamespaces         |
| D attachments          | S currentinterface       |

S currentresponse  
F definecommand  
F defined  
F doifelsemessage  
D elements  
T floats  
D formats  
F getmessage  
F getnamespace  
F getsetupstring  
D hashedsetups  
F implement  
T integers  
F interfacedcommand  
T interfaces  
F knownscanner  
F message  
F nameofscanner  
T namesofscanners  
T namespaces  
    F define  
    F list  
T numbers  
F registernamespace  
F registerscanner  
D scanners  
F setconstant  
F setcount  
F setdimen  
F setelement  
F setformat  
F setmacro  
F setmessage  
F setmessages  
F settranslation  
D setupstrings  
F setvariable  
F showmessage  
D storedscanners  
F tolist  
D translations  
D usednamespaces  
D variables  
F writestatus

T io  
F ask  
F bytes  
F characters  
F close  
F copydata  
F exists  
S fileseparator  
F flush  
F gobble  
F input  
F lines  
F loadchunk  
F loaddata  
F loadlines  
F newreader  
F noflines  
F open  
F output  
S pathseparator  
F popen  
F read  
F readall  
F readnumber  
F readstring  
F savedata  
F size  
U stderr  
U stdin  
U stdout  
F tmpfile  
F type  
F write  
F ipairs  
T job  
    F comment  
T datasets  
    D collected  
    F extend  
    F getdata  
    F setdata  
    D tobesaved  
F disablesave  
T embedded

|                     |                    |
|---------------------|--------------------|
| D collected         | F b_region         |
| D tobesaved         | F c                |
| T fileobjreferences | D collected        |
| D collected         | F column           |
| D tobesaved         | F columnofpos      |
| T files             | F copy             |
| D collected         | F depth            |
| F context           | F e_column         |
| B forcerun          | F e_region         |
| F run               | F enhance          |
| D tobesaved         | F extra            |
| F getrandomseed     | F get              |
| F initialize        | F getcolumndata    |
| T linkedlists       | F getfree          |
| D collected         | F gethpos          |
| D tobesaved         | F gethvrpos        |
| F load              | F getpos           |
| F loadother         | F getreserved      |
| T meshedup          | F getrpos          |
| D collected         | F getsync          |
| D tobesaved         | F gettobesaved     |
| T objects           | F getvpos          |
| D collected         | F hangafter        |
| F get               | F hangindent       |
| F number            | F height           |
| F page              | F hsize            |
| F save              | N lastr            |
| F set               | N lastx            |
| D tobesaved         | N lasty            |
| B pack              | F leftskip         |
| N packversion       | F lowerleft        |
| T pagestates        | F lowerright       |
| D collected         | F markregionbox    |
| F countervalue      | F n                |
| F extend            | F onsamepage       |
| F realpage          | F overlapping      |
| F realpageorder     | F p                |
| F setstate          | F page             |
| D tobesaved         | F paragraph        |
| T parwrappers       | F parindent        |
| D collected         | F position         |
| D tobesaved         | F r                |
| T positions         | F region           |
| F b_column          | F registerhandlers |

|                    |                    |
|--------------------|--------------------|
| F replace          | F hyphenate        |
| F rightskip        | F hyphenation      |
| F set              | F hyphenationmin   |
| F setall           | F id               |
| F setregionbox     | F new              |
| F setspec          | F patterns         |
| F settobesaved     | F postexhyphenchar |
| D tobesaved        | F posthyphenchar   |
| F upperleft        | F preexhyphenchar  |
| F upperright       | F prehyphenchar    |
| F used             | F sethjcode        |
| F whd              | F setwordhandler   |
| F width            | T languages        |
| F x                | F addgoodiesdata   |
| F xy               | F addgoodiesfile   |
| F y                | T appliedoptions   |
| F register         | F associate        |
| F save             | D associated       |
| T structure        | F association      |
| D collected        | D counters         |
| T components       | F current          |
| T namestack        | D data             |
| T tobesaved        | D decimals         |
| T branches         | F define           |
| S name             | F explicithyphen   |
| S type             | F exportlanguage   |
| T variables        | F flatten          |
| D checksums        | T frequencies      |
| D collected        | F averagecharwidth |
| F getchecksum      | F getdata          |
| F makechecksum     | F getdata          |
| F restore          | F getmetadata      |
| F save             | F getnumber        |
| F setchecksum      | F goodiefiles      |
| D tobesaved        | T hjcounts         |
| N version          | F hyphenate        |
| T kpse             | T hyphenators      |
| T language         | T dictionaries     |
| F clean            | D featuresets      |
| F clearhyphenation | F handler          |
| F clearpatterns    | T methods          |
| F current          | F expanded         |
| F gethjcode        | B none             |
| F has_language     | F original         |

|                          |                            |
|--------------------------|----------------------------|
| F tex                    | F setoptions               |
| F traditional            | F setpatterns              |
| F popmethod              | F setsynonym               |
| F pushmethod             | F setwordhandler           |
| F setmethod              | F showdiscretionaries      |
| F setup                  | F strippedgoodiewords      |
| F showhyphenationtrace   | F tolang                   |
| T traditional            | T transliteration          |
| F definefeatures         | F exception                |
| F gettrace               | F handler                  |
| F hyphenate              | F register                 |
| F injecthyphens          | F set                      |
| F installmethod          | F use                      |
| F lasttrace              | F unload                   |
| F loadpatterns           | T urls                     |
| F registerexception      | D characters               |
| F registerpattern        | N leftthyphenmin           |
| F setfeatures            | D mapping                  |
| F installed              | B packslashes              |
| F installhandler         | N righthyphenmin           |
| T labels                 | F setcharacters            |
| F define                 | N version                  |
| F split                  | F visualizediscretionaries |
| F loadable               | T words                    |
| F loadwords              | F check                    |
| T logger                 | T data                     |
| F report                 | F disable                  |
| F noflattened            | F enable                   |
| D numbers                | T enablers                 |
| F pdflanguage            | B enables                  |
| F postexhyphenchar       | F found                    |
| F postthyphenchar        | F load                     |
| F preexhyphenchar        | T methods                  |
| F prehyphenchar          | N threshold                |
| D registered             | T layouts                  |
| T registeredactions      | F getcanvas                |
| T replacements           | F getpagedimensions        |
| F add                    | F setupcanvas              |
| F addlist                | T status                   |
| F handler                | F isleftpage               |
| F set                    | F lefttorrightpageaction   |
| F serializediscretionary | T lfs                      |
| F setexceptions          | F attributes               |
| F setgoodieshandler      | F chdir                    |

|                   |                           |
|-------------------|---------------------------|
| F currentdir      | T html                    |
| F dir             | F a                       |
| F isdir           | F td                      |
| F isfile          | F th                      |
| F isfound         | F include                 |
| F isreadabledir   | T inherited               |
| F isreadablefile  | S color-background-four   |
| F iswriteabledir  | S color-background-one    |
| F iswriteablefile | S color-background-three  |
| F link            | S color-background-two    |
| F mkdir           | S title                   |
| F makedirs        | F initialize              |
| F modification    | F inject                  |
| F readlink        | F lmxfile                 |
| F rmdir           | F loadedfile              |
| F setexecutable   | F make                    |
| F symlink         | F new                     |
| F symlinktarget   | F popupfile               |
| F touch           | F print                   |
| F walkdir         | F pv                      |
| T libraries       | F report                  |
| D basiclua        | F reset                   |
| D basictex        | F result                  |
| D builtin         | F set                     |
| D extralua        | F show                    |
| D extratex        | F stripcss                |
| D functions       | F tv                      |
| D globals         | F type                    |
| D obsolete        | F urlescape               |
| D optional        | F variable                |
| T lmx             | T variables               |
| F color           | S color-background-blue   |
| F convert         | S color-background-body   |
| F convertfile     | S color-background-green  |
| F convertstring   | S color-background-main   |
| F einject         | S color-background-purple |
| F eprint          | S color-background-yellow |
| F escape          | S title-default           |
| F finalized       | F load                    |
| F finject         | D loaders                 |
| F fprint          | F loadfile                |
| F get             | F loadstring              |
| F getvariables    | T logs                    |
| F htmfile         | F application             |

|                        |                           |
|------------------------|---------------------------|
| F categories           | F action                  |
| F direct               | F adddocumentcolorspace   |
| F disable              | F adddocumenttextgstate   |
| F enable               | F adddocumentpattern      |
| F finalactions         | F adddocumentshade        |
| F flush                | F addtocatalog            |
| F loggingerrors        | F addtoinfo               |
| F messenger            | F addtonames              |
| F new                  | F addtopageattributes     |
| F newline              | F addtopageresources      |
| F poplogfile           | F addtopagesattributes    |
| F poptarget            | F addxmpinfo              |
| T private              | F annotationspecification |
| F enablepagetiming     | F array                   |
| F getpagetiming        | F attachmentsymbols       |
| F pushlogfile          | F boolean                 |
| F pushtarget           | F border                  |
| F registerfinalactions | F checkedkey              |
| F report               | F checkedresources        |
| F reporter             | F checkedvalue            |
| F resetlogfile         | F circularshade           |
| F setformats           | F close                   |
| F setformatters        | F cmykcode                |
| F setlogfile           | F collectedresources      |
| F setmessenger         | F color                   |
| F setprocessor         | F colorspace              |
| F settarget            | D colorspaceconstants     |
| F settimedlog          | F colorspec               |
| F settranslations      | F colorvalue              |
| F show                 | F colorvalues             |
| F start_page_number    | F commentsymbols          |
| F start_run            | F compressdata            |
| F starterrorlogging    | F compresslevel           |
| F startfilelogging     | F constant                |
| F status               | F copyarray               |
| F stop_page_number     | F copyboolean             |
| F stoperrorlogging     | F copyconstant            |
| F stopfilelogging      | F copydictionary          |
| F subdirect            | F copyfloat               |
| F subreport            | F copyinteger             |
| F system               | F copynumber              |
| F texerrormessage      | F copystring              |
| F writer               | F copyunicode             |
| T lpdf                 | F deferredobject          |

|                            |                          |
|----------------------------|--------------------------|
| F delayedobject            | T resolvers              |
| F destinationspecification | F destinations           |
| F dictionary               | F embeddedfiles          |
| F docstring                | F javascripts            |
| T encodingvalues           | F layers                 |
| N base16                   | F pages                  |
| N base85                   | F structure              |
| N decoded                  | F widgets                |
| N encoded                  | F unload                 |
| N plain                    | F verboseobject          |
| N utf16be                  | F escaped                |
| N utf16le                  | F finalizedocument       |
| T endpoints                | F finalizepage           |
| S Div                      | F finalizesignature      |
| S Part                     | F finishtransparencycode |
| S Sect                     | T flags                  |
| T epdf                     | T annotations            |
| F allcontent               | N AutoView               |
| F analyzefonts             | N Hidden                 |
| F contentplugin            | N Invisible              |
| F contenttostring          | N Locked                 |
| F contenttotext            | N LockedContents         |
| D encryptioncodes          | N NoRotate               |
| F expanded                 | N NoView                 |
| F expandwidths             | N NoZoom                 |
| F fontplugin               | N Print                  |
| F getpagecontent           | N Printable              |
| F getstructure             | N ReadOnly               |
| T helpers                  | N ToggleNoView           |
| F tounicodetable           | N auto                   |
| T image                    | N hidden                 |
| F close                    | N printable              |
| F copy                     | T widgets                |
| F new                      | N Comb                   |
| F open                     | N CommitOnSelChange      |
| F query                    | N DoNotScroll            |
| F load                     | N DoNotSpellCheck        |
| F mergewidths              | N Edit                   |
| D objectcodes              | N FileSelect             |
| F objectrange              | N MultiLine              |
| F objecttype               | N NoExport               |
| F pageplugin               | N NoToggleToOff          |
| F parsecontent             | N Password               |
| F producer                 | N PopUp                  |

|                         |                       |
|-------------------------|-----------------------|
| N PushButton            | F graycode            |
| N Radio                 | T h_hex_2             |
| N RadiosInUnison        | S                     |
| N ReadOnly              | S                     |
| N Required              | S                     |
| N RichText              | S                     |
| N Sort                  | S                     |
| N file                  | S (                   |
| N fixed                 | S )                   |
| N nocheck               | S \                   |
| N protected             | T h_hex_4             |
| N readonly              | F hasmatrix           |
| N required              | F immediateobject     |
| N sorted                | F includeimage        |
| N unavailable           | F initialize          |
| F flushfonts            | T injectors           |
| F flushgroup            | F bitmap              |
| F flushobject           | F jp2                 |
| F flushstreamfileobject | F jpg                 |
| F flushstreamobject     | F png                 |
| T fonts                 | F injectxmpinfo       |
| F color_direct          | F insertxmpinfo       |
| F color_indirect        | F lastreferredpage    |
| D formats               | F layerreference      |
| F frombytes             | F limited             |
| F fromeight             | F linearshade         |
| F frompdfdoc            | F literal             |
| F fromsixteen           | F majorversion        |
| F getcatalog            | F makenametree        |
| F getcompression        | F minorversion        |
| F getfontname           | F noffontregistries   |
| F getfontobjectnumber   | F nopages             |
| F getformatoption       | F null                |
| F getinfo               | F number              |
| F getmatrix             | F object              |
| F getnofpages           | F objectcompresslevel |
| F getpageproperties     | F pagereference       |
| F getpagereference      | F patternstream       |
| F getpagetags           | F pdfcolor            |
| F getpos                | F pdftimestamp        |
| F gettaggingstatus      | T permissions         |
| F gettrailerid          | N access              |
| F getversion            | N add                 |
| F getxformname          | N assemble            |

|                             |                               |
|-----------------------------|-------------------------------|
| N extract                   | F transparency                |
| N fillin                    | F transparencycode            |
| N modify                    | T transparencygroups          |
| N print                     | B none                        |
| N quality                   | F transparencyvalue           |
| F preparesignature          | F unicode                     |
| F print                     | T usedcharacters              |
| F procset                   | T usedfontnames               |
| B protectresources          | N dejavusansmonoboldttf-1-0-0 |
| F quads                     | T usedfontobjects             |
| F rectangle                 | N dejavusansmonoboldttf-1-0-0 |
| F reference                 | D usedfontstreams             |
| F registerannotation        | T usedindices                 |
| F registerdestination       | T dejavusansmonoboldttf-1-0-0 |
| F registerdocumentfinalizer | T dejavusansmonottf-1-0-0     |
| F registerfontmethod        | F verbose                     |
| F registerinitializer       | T lpeg                        |
| F registerpagefinalizer     | F B                           |
| F registerpattern           | F C                           |
| F registersignature         | F Carg                        |
| F replacempinfo             | F Cb                          |
| F reserveobject             | F Cc                          |
| F rgbcode                   | F Cf                          |
| F rotationcm                | F Cg                          |
| F setcompression            | F Cmt                         |
| F setencryption             | F Cp                          |
| F setpageorder              | F Cs                          |
| F setpagestate              | F Ct                          |
| F setpagetag                | F P                           |
| F setutfstringmode          | F R                           |
| F setversion                | F S                           |
| F sharedobject              | F UP                          |
| F shareobject               | F UR                          |
| F shareobjectreference      | F US                          |
| F splitsixteen              | F V                           |
| F spotcode                  | F afterprefix                 |
| F stream                    | F anywhere                    |
| F string                    | F append                      |
| F supportedformats          | F balancer                    |
| F tocidset                  | F beforesuffix                |
| F toeight                   | F checkedsplit                |
| F topdfdoc                  | F containsws                  |
| F topermissions             | F counter                     |
| F tosixteen                 | F endstripper                 |

|                         |                           |
|-------------------------|---------------------------|
| F finder                | F getexitcode             |
| F firstofsplit          | F getfunctionstable       |
| F frontstripper         | F getnibble               |
| F instringchecker       | F getnumerickeys          |
| F is_peg                | F getpreciseseconds       |
| F keeper                | F getpreciseticks         |
| F locale                | F getruntime              |
| F match                 | F getstacktop             |
| F oneof                 | F getstartupfile          |
| D patterns              | F getstringkeys           |
| F pcode                 | F getversion              |
| F print                 | N lastbytecode            |
| F ptree                 | D messages                |
| F replacer              | F newindex                |
| F secondofsplit         | F newtable                |
| F setmaxstack           | D numbers                 |
| F setutfcasers          | F protectglobal           |
| F split                 | F registercode            |
| F splitat               | F registeredcodes         |
| F splitter              | F registerglobal          |
| F stripper              | F registerinitexfinalizer |
| F times                 | F registername            |
| F tsplitat              | F setbytecode             |
| F tsplitter             | F setexitcode             |
| F type                  | F setnibble               |
| F utfR                  | S startupfile             |
| F utfchartabletopattern | F subnibble               |
| F utfreplacer           | S version                 |
| S version               | T luac                    |
| T lua                   | F inspect                 |
| F addnibble             | F print                   |
| T bytecode              | T luatex                  |
| D bytedata              | F abort                   |
| T bytedone              | F cleanup                 |
| F callbytecode          | F cleanuptempfiles        |
| F comparekeys           | F currentfile             |
| F finalizeinitex        | F currentlevel            |
| N firstbytecode         | F currenttotal            |
| F get_functions_table   | F poprunstate             |
| F getallkeys            | F pushrunstate            |
| F getbytecode           | F registerdumpactions     |
| F getcheckedkeys        | F registerpageactions     |
| F getcurrenttime        | F registerstartactions    |
| F getdebuginfo          | F registerstopactions     |

|   |                  |   |                 |
|---|------------------|---|-----------------|
| F | registertempfile | F | after           |
| N | starttime        | F | before          |
| T | synctex          | F | handle          |
| F | blockfilename    | F | load            |
| F | collect          | F | setup           |
| F | disable          | F | displayverbatim |
| F | enable           | F | doif            |
| F | finish           | F | doifelse        |
| F | isenabled        | F | doifelseempty   |
| F | pause            | F | doifelsestext   |
| F | popline          | F | doifempty       |
| F | pushline         | F | doifnot         |
| F | registerdisabler | F | doifnotempty    |
| F | registerenabler  | F | doifnottext     |
| F | resetfilename    | F | doiftext        |
| F | resume           | F | element         |
| F | setfilename      | F | elements        |
| F | setup            | D | entities        |
| F | start            | F | fileline        |
| F | stop             | F | filename        |
| F | wrapup           | F | filter          |
| F | wrapup           | F | filterlist      |
| T | lxml             | F | first           |
| F | addindex         | F | flush           |
| F | all              | F | flushlinewise   |
| F | applyfunction    | F | flushsetups     |
| F | applyselectors   | F | flushspacewise  |
| F | att              | F | get_id          |
| F | attribute        | F | getid           |
| F | badinclusions    | F | getindex        |
| F | chainattribute   | F | id              |
| F | checkindex       | U | idsplitter      |
| F | collected        | F | ifatt           |
| F | command          | F | ifattempty      |
| F | concat           | F | include         |
| F | concatrange      | F | inclusion       |
| F | content          | F | inclusions      |
| F | context          | F | index           |
| F | convert          | F | inlineverbatim  |
| F | count            | F | installsetup    |
| F | delete           | F | last            |
| F | depth            | F | lastatt         |
| F | direct           | F | lastmatch       |
| T | directives       | F | lastpar         |

|                    |                 |
|--------------------|-----------------|
| F load             | F snippet       |
| F loadbuffer       | T sorters       |
| F loaddata         | F add           |
| T loaded           | F compare       |
| F main             | F flush         |
| F match            | F reset         |
| F name             | F show          |
| F namespace        | F sort          |
| F nonspace         | F splitid       |
| T obsolete         | F startraw      |
| F get_id           | F startunesaped |
| F par              | F stopraw       |
| F param            | F stopunesaped  |
| F parameter        | F store         |
| F path             | F strip         |
| F popmatch         | F stripped      |
| F pos              | F tag           |
| F position         | F texatt        |
| F pure             | F text          |
| F pushmatch        | F tobuffer      |
| F raw              | F tofile        |
| F rawroot          | F toparameters  |
| F rawtex           | F toverbatim    |
| F refatt           | F verbatim      |
| F register         | F withindex     |
| F registerentity   | D xmltexhandler |
| F removesetup      | T math          |
| F replace          | F abs           |
| F resetcdata       | F acos          |
| F resetsetups      | F asin          |
| F resolvedentity   | F atan          |
| F root             | F atan2         |
| F save             | F ceil          |
| F serialize        | F ceiling       |
| F setaction        | F cos           |
| F setatt           | F cosd          |
| F setattribute     | F cosh          |
| F setcdata         | F deg           |
| F setcommandtonone | F div           |
| F setcommandtotext | F even          |
| F setpar           | F exp           |
| F setparam         | F floor         |
| F setparameter     | F fmod          |
| F setsetup         | F frexp         |

|                          |                        |
|--------------------------|------------------------|
| N huge                   | F define               |
| N initialseed            | T dictionaries         |
| F ldexp                  | D data                 |
| F log                    | D defaults             |
| F log10                  | D groups               |
| F max                    | F groupset             |
| N maxinteger             | F groupsetgroup        |
| F min                    | F name                 |
| N mininteger             | D names                |
| F mod                    | F registercharacter    |
| F modf                   | F registergroup        |
| F odd                    | F registergroupset     |
| N pi                     | D sets                 |
| F pow                    | D variants             |
| F rad                    | F dimensions           |
| F random                 | F disablecollecting    |
| F randomseed             | T domainlabels         |
| F round                  | T domainnames          |
| F setrandomseedi         | N default              |
| F sin                    | F enablecollecting     |
| F sind                   | F extensiblecode       |
| F sinh                   | D extensibles          |
| F sqrt                   | N extrabase            |
| F tan                    | T fallbacks            |
| F tand                   | F apply                |
| F tanh                   | F install              |
| F tointeger              | F fallbackstyleattr    |
| F type                   | F familyname           |
| F ult                    | F functiontype         |
| T mathematics            | D gaps                 |
| F addfallbacks           | F getblobindex         |
| F addvariant             | F getboth              |
| D alphabets              | F getdomainname        |
| D alternatives           | F getextensibledata    |
| F beforepassingfonttotex | F getmathblob          |
| F big                    | F getoptionallabel     |
| D boldmap                | F getstyle             |
| T categories             | F gettextblob          |
| D functions              | F getverboselabel      |
| D charactersets          | F horizontalcode       |
| F checkaftercopyingfont  | F initializeparameters |
| D classes                | F makefont             |
| D classnames             | D mapremap             |
| D codes                  | F markblobindexdone    |

|                          |                    |
|--------------------------|--------------------|
| F overloadparameters     | F addfourier       |
| F preset                 | F addmirrors       |
| T presets                | F addparts         |
| T less                   | F addprivates      |
| T more                   | F addrules         |
| T zero                   | F addscripts       |
| N privatebase            | F bigslots         |
| F registerextensible     | F checkaccents     |
| F registersimplematrix   | F checkspacing     |
| F registerverboselabel   | F copyaccents      |
| F remapalphabets         | T datasets         |
| F renderextensible       | T accentdimensions |
| T renderings             | T accent           |
| D mappings               | T over             |
| D numbers                | T under            |
| D sets                   | T addarrows        |
| F renderset              | T addscripts       |
| F resetattributes        | T checkspacing     |
| F scaleparameters        | T copyaccents      |
| F setextensibledata      | T fixprimes        |
| F setmathsymbol          | T fixslashes       |
| D sets                   | T wipecues         |
| F setsnapping            | F dimensions       |
| F setvariant             | F extendaccents    |
| F strutcode              | F fallbacks        |
| D styles                 | F fixaccents       |
| F syncboth               | F fixellipses      |
| F syncname               | F fixintegrals     |
| F syncstyle              | F fixoldschool     |
| T tagging                | F fixprimes        |
| B mfenced                | F fixradicals      |
| F toengineclass          | F fixslashes       |
| F toname                 | F fixvariants      |
| F tostyle                | F flattenaccents   |
| F tweakaftercopyingfont  | F fontname         |
| F tweakbeforecopyingfont | F inspect          |
| T tweaks                 | F keepbases        |
| F accentdimensions       | F kernpairs        |
| F action                 | F kerns            |
| F addactuarian           | T kernsets         |
| F addarrows              | T .,               |
| F addbars                | F margins          |
| F addcomposites          | F message          |
| F addequals              | F moveitalics      |

|                        |                      |
|------------------------|----------------------|
| F movelimits           | T md5                |
| F parameters           | F HEX                |
| F radicalbodymargins   | F dec                |
| F radicaldegreeanchors | F hex                |
| F replace              | F sum                |
| F replacealphabets     | F sumHEXA            |
| F replacerules         | F sumhexa            |
| F setoptions           | T metapost           |
| F setovershoots        | F checkformat        |
| F showinfo             | F checktracingonline |
| F simplifykerns        | F cm                 |
| F sortvariants         | T codes              |
| F staircase            | N addto              |
| F strut                | N ampersand          |
| T subsets              | N and                |
| T acenorsuvxz          | N assignment         |
| T bhklt                | N atleast            |
| T d                    | N begingroup         |
| T dotless              | N btex               |
| T f                    | N capsule            |
| T gjqy                 | N colon              |
| T horizontalfences     | N comma              |
| T i                    | N controls           |
| T integrals            | N curl               |
| T letterlike           | N cycle              |
| T mw                   | N definedmacro       |
| T p                    | N delimiters         |
| F substitute           | N endgroup           |
| F topanchors           | N equals             |
| F tweaks               | N etex               |
| F version              | N everyjob           |
| F wipeanchors          | N exittest           |
| F wipecues             | N expandafter        |
| F wipeitalics          | N fiorelse           |
| F wipevariants         | N if                 |
| F utfmathaccent        | N input              |
| F utfmathclass         | N interim            |
| F utfmathcommand       | N internal           |
| F utfmathfiller        | N iteration          |
| F utfmathstretch       | N leftbrace          |
| F variantcode          | N leftbracket        |
| F variantcount         | N leftdelimiter      |
| F virtualize           | N let                |
| D virtualized          | N macrodef           |

|                   |                     |
|-------------------|---------------------|
| N macrospecial    | N typename          |
| N maketext        | N unary             |
| N message         | N undefinedcs       |
| N mode            | N until             |
| N newbytemap      | N void              |
| N newinternal     | N with              |
| N nullary         | N within            |
| N numeric         | N write             |
| N of              | F colorinitializer  |
| N ofbinary        | F convert           |
| N onlyset         | F currentmpx        |
| N parametertype   | F currentmpxstatus  |
| N pathconnect     | S defaultformat     |
| N pathjoin        | S defaultinstance   |
| N plusorminus     | S defaultmethod     |
| N primarybinary   | F directrun         |
| N primarydef      | F escaped           |
| N property        | T exectime          |
| N protection      | D extensiondata     |
| N relax           | F filterclippath    |
| N repeatloop      | F flush             |
| N rightbrace      | T flushers          |
| N rightbracket    | T pdf               |
| N rightdelimiter  | F flushfigure       |
| N runsript        | F startfigure       |
| N save            | F stopfigure        |
| N scantokens      | F textfigure        |
| N secondarybinary | F tocomment         |
| N secondarydef    | F flushnormalpath   |
| N semicolon       | T fonts             |
| N setbounds       | F define            |
| N shipout         | F format_number     |
| N show            | F format_string     |
| N slash           | F formatnumber      |
| N step            | F getbackendoption  |
| N stop            | F getbendtolerance  |
| N str             | F getbuffer         |
| N string          | F getclippath       |
| N tag             | F getextensions     |
| N tension         | F getextradata      |
| N tertiarybinary  | F gethashentries    |
| N tertiarydef     | F getinstancebyname |
| N thingstoadd     | F getinstanceinfo   |
| N to              | F getinstancenames  |

|                      |                       |
|----------------------|-----------------------|
| F getjobdata         | F processplugins      |
| F getmovetolerance   | T properties          |
| F getparameter       | F pushformat          |
| F getparameterpreset | F pushscriptrunner    |
| F getparameterset    | F pushvariable        |
| F getrecord          | F pushvariables       |
| F getstatistics      | B quitonerror         |
| F gettext            | B reductogray         |
| F gettolerance       | F registerdirect      |
| F graphic            | F registermesher      |
| F graphic_base_pass  | F registermeshupper   |
| F hascurvature       | F registerscript      |
| F includesvgbuffer   | F registertokens      |
| F includesvgfile     | F remappedtext        |
| F installplugin      | F remaptext           |
| F isobject           | F reporterror         |
| T knownparameters    | F reportsvgfonts      |
| S lastlog            | F reset               |
| F load               | F resetbackendoptions |
| F maketext           | F resetlastlog        |
| F mesh               | F resetplugins        |
| F mesher             | F run                 |
| F meshupper          | F runinternal         |
| T metafonts          | F runscript           |
| T metafun            | F scanparameters      |
| F interpolate        | F scriptindex         |
| F topath             | F setbendtolerance    |
| T mptopdf            | F setbuffer           |
| F convertmpstopdf    | F setextensions       |
| N noconverted        | F setlogging          |
| N n                  | F setmovetolerance    |
| F newlogger          | F setoutercolor       |
| N nofruns            | F setparameter        |
| F nofscriptruns      | F setparameterset     |
| F nvformat           | F setrecord           |
| F pdfliterals        | F setttext            |
| F pluginactions      | F settolerance        |
| F popformat          | F setvariable         |
| F popscriptrunner    | B showlog             |
| F popvariable        | F showsvgpage         |
| F popvariables       | F simple              |
| F preparetexttsdata  | F splitprescript      |
| F process            | F startgraphic        |
| F processing         | F startsvghashing     |

|                    |                    |
|--------------------|--------------------|
| F stopgraphic      | N pen              |
| F stopsvghashing   | N picture          |
| F svformat         | N protodependent   |
| B svgcachefile     | N string           |
| F svgcolorremapper | N structured       |
| T svgfactors       | N suffixedmacro    |
| N %                | N tokenlist        |
| N bp               | N transform        |
| N cm               | N unknownboolean   |
| N em               | N unknownnep       |
| N ex               | N unknownpath      |
| N in               | N unknownpen       |
| N mm               | N unknownpicture   |
| N pc               | N unknownstring    |
| N pt               | N unsuffixedmacro  |
| N px               | N vacuous          |
| F svgglyphtomp     | F typesvgpage      |
| F svgshapestomp    | F unload           |
| F svgshapestopdf   | F untagvariable    |
| F svgsplitcolor    | T variables        |
| F svgtomp          | T mime             |
| F svgtopdf         | F b64              |
| F sxsy             | F decode           |
| T tex              | T decodet          |
| F get              | F base64           |
| F reset            | F quoted-printable |
| F set              | F dot              |
| F setfrombuffer    | F encode           |
| B texerrors        | T encodet          |
| F texexp           | F base64           |
| F theclippath      | F quoted-printable |
| F tographic        | F eol              |
| F totable          | F normalize        |
| T types            | F qp               |
| N boolean          | F qpwrp            |
| N cmykcolor        | F report           |
| N color            | F stuff            |
| N dependent        | F unb64            |
| N independent      | F unqp             |
| N known            | F wrap             |
| N nep              | T wrapt            |
| N numeric          | F base64           |
| N pair             | F default          |
| N path             | F quoted-printable |

|                       |                       |
|-----------------------|-----------------------|
| F text                | D font-afk            |
| F wrp                 | D font-agl            |
| T moduledata          | D font-aux            |
| T modules             | D font-cff            |
| D anch-loc            | D font-chk            |
| D anch-pgr            | D font-cid            |
| D anch-snc            | D font-col            |
| D back-exp            | D font-con            |
| D back-exp-imp-fnt    | D font-ctx            |
| D back-exp-imp-mth    | D font-def            |
| D back-exp-imp-ref    | D font-dsp            |
| D back-exp-imp-tag    | D font-enc            |
| D back-imp-lua        | D font-enh            |
| D back-imp-mps        | D font-fbk            |
| D back-imp-pdf        | D font-fmp            |
| D back-imp-pdp        | D font-hsh            |
| D back-inc            | D font-imp-checks     |
| D blob-ini            | D font-imp-combining  |
| D buff-imp-default    | D font-imp-compound   |
| D buff-imp-escaped    | D font-imp-digits     |
| D buff-imp-lua        | D font-imp-dimensions |
| D buff-imp-mp         | D font-imp-effects    |
| D buff-imp-nested     | D font-imp-italics    |
| D buff-imp-parsed-xml | D font-imp-ligatures  |
| D buff-imp-tex        | D font-imp-math       |
| D buff-imp-xml        | D font-imp-notused    |
| D buff-ini            | D font-imp-properties |
| D buff-par            | D font-imp-quality    |
| D buff-ver            | D font-imp-reorder    |
| D char-enc            | D font-imp-scripts    |
| D chem-ini            | D font-imp-spacekerns |
| D chem-str            | D font-imp-tex        |
| D cldf-com            | D font-imp-text       |
| D cldf-ver            | D font-imp-tracing    |
| D colo-icc            | D font-imp-tweaks     |
| D colo-ini            | D font-imp-unicode    |
| D cont-run            | D font-ini            |
| D core-con            | D font-lig            |
| D core-ctx            | D font-log            |
| D core-dat            | D font-lua            |
| D core-sys            | D font-map            |
| D driv-shp            | D font-mpf            |
| D file-mod            | D font-mps            |
| D file-syn            | D font-nod            |

|            |                           |
|------------|---------------------------|
| D font-ogr | D grph-u3d                |
| D font-one | D java-ini                |
| D font-onr | D lang-cnt                |
| D font-osd | D lang-def                |
| D font-ota | D lang-dis                |
| D font-otc | D lang-exc                |
| D font-otd | D lang-hup                |
| D font-oth | D lang-hyp                |
| D font-oti | D lang-ini                |
| D font-otj | D lang-lab                |
| D font-otl | D lang-rep                |
| D font-oto | D lang-tra                |
| D font-otr | D lang-txt                |
| D font-ots | D lang-url                |
| D font-ott | D lang-wrd                |
| D font-oup | D libs-imp-curl           |
| D font-pat | D libs-imp-ghostscript    |
| D font-prv | D libs-imp-graphicsmagick |
| D font-san | D libs-ini                |
| D font-sel | D lpdf-ano                |
| D font-shp | D lpdf-col                |
| D font-sol | D lpdf-epa                |
| D font-syn | D lpdf-epd                |
| D font-tfm | D lpdf-fix                |
| D font-tpk | D lpdf-fix-imp-contents   |
| D font-trt | D lpdf-fix-imp-fonts      |
| D font-ttf | D lpdf-fld                |
| D font-txt | D lpdf-fmt                |
| D font-vfc | D lpdf-grp                |
| D font-vir | D lpdf-img                |
| D good-ctx | D lpdf-ini                |
| D good-gen | D lpdf-lmt                |
| D good-ini | D lpdf-mis                |
| D good-mth | D lpdf-ren                |
| D grph-bmp | D lpdf-rul                |
| D grph-con | D lpdf-sig                |
| D grph-epd | D lpdf-tag                |
| D grph-fil | D lpdf-u3d                |
| D grph-img | D lpdf-wid                |
| D grph-inc | D lpdf-xmp                |
| D grph-pat | D lxml-css                |
| D grph-raw | D lxml-dir                |
| D grph-rul | D lxml-ent                |
| D grph-trf | D lxml-ini                |

|                |             |
|----------------|-------------|
| D lxml-mms     | D mlib-run  |
| D lxml-sor     | D mlib-scen |
| D lxml-tex     | D mlib-snc  |
| D math-act     | D mlib-svg  |
| D math-ali     | D node-ali  |
| D math-dim     | D node-bck  |
| D math-ext     | D node-fnt  |
| D math-fbk     | D node-par  |
| D math-fnt     | D node-ref  |
| D math-frc     | D node-rul  |
| D math-ini     | D node-tra  |
| D math-map     | D node-typ  |
| D math-mps     | D pack-obj  |
| D math-noa     | D pack-ori  |
| D math-pre     | D pack-rul  |
| D math-rad     | D page-blk  |
| D math-ren     | D page-cst  |
| D math-spa     | D page-flt  |
| D math-tag     | D page-ini  |
| D math-txt     | D page-inj  |
| D math-vfu     | D page-ins  |
| D meta-blb     | D page-lin  |
| D meta-fnt     | D page-mix  |
| D meta-fun     | D page-otr  |
| D meta-imp-txt | D page-pst  |
| D meta-ini     | D page-sel  |
| D meta-lua     | D page-str  |
| D meta-nod     | D phys-dim  |
| D meta-pdf     | D publ-aut  |
| D meta-tex     | D publ-dat  |
| D mlib-ctx     | D publ-fnd  |
| D mlib-fio     | D publ-inc  |
| D mlib-int     | D publ-ini  |
| D mlib-lmp     | D publ-jrn  |
| D mlib-lmt     | D publ-oth  |
| D mlib-lua     | D publ-reg  |
| D mlib-mat     | D publ-sor  |
| D mlib-mpf     | D publ-tra  |
| D mlib-msh     | D publ-usr  |
| D mlib-pdf     | D regi-ini  |
| D mlib-pos     | D scrn-but  |
| D mlib-pps     | D scrn-fld  |
| D mlib-ptr     | D scrn-hlp  |
| D mlib-ran     | D scrn-ini  |

|            |            |
|------------|------------|
| D scrn-pag | D tabl-ntb |
| D scrn-ref | D tabl-tbl |
| D scrn-wid | D tabl-xtb |
| D scrp-cjk | D task-ini |
| D scrp-eth | D trac-bld |
| D scrp-ini | D trac-jus |
| D scrp-tha | D trac-par |
| D scrp-tib | D trac-riv |
| D sort-ini | D trac-sig |
| D sort-lan | D trac-vis |
| D spac-ali | D type-ini |
| D spac-brk | D typo-adj |
| D spac-chr | D typo-bld |
| D spac-hor | D typo-brk |
| D spac-ovl | D typo-cap |
| D spac-par | D typo-chr |
| D spac-pas | D typo-cln |
| D spac-prf | D typo-dha |
| D spac-twi | D typo-dif |
| D spac-ver | D typo-dig |
| D strc-bkm | D typo-dir |
| D strc-blk | D typo-drp |
| D strc-con | D typo-duc |
| D strc-doc | D typo-fkr |
| D strc-flt | D typo-fln |
| D strc-ini | D typo-hid |
| D strc-itm | D typo-inj |
| D strc-lev | D typo-itc |
| D strc-lst | D typo-krn |
| D strc-mar | D typo-lan |
| D strc-mat | D typo-lbx |
| D strc-not | D typo-man |
| D strc-num | D typo-mar |
| D strc-pag | D typo-ovl |
| D strc-ref | D typo-pag |
| D strc-reg | D typo-par |
| D strc-rsc | D typo-pnc |
| D strc-syn | D typo-prc |
| D strc-tag | D typo-rep |
| D strc-usr | D typo-rub |
| D symb-emj | D typo-spa |
| D symb-ini | D typo-stc |
| D syst-cmp | D typo-sus |
| D tabl-ali | D typo-syn |

|                          |                              |
|--------------------------|------------------------------|
| D typo-tal               | F fillbytemap                |
| D typo-wrp               | F flatten                    |
| D unic-ini               | F flush                      |
| T mp                     | F format                     |
| F autoinject             | F formatted                  |
| T aux                    | F fprintf                    |
| F boolean                | T get                        |
| F color                  | F hashentry                  |
| F direct                 | F getbytemap                 |
| F draw                   | F getbytemapdata             |
| F fill                   | F getlastadddtype            |
| F flush                  | F graphformat                |
| F fprintf                | T inject                     |
| F integer                | F boolean                    |
| F number                 | F cmykcolor                  |
| F numeric                | F color                      |
| F pair                   | F integer                    |
| F pairpoints             | F number                     |
| F path                   | F numeric                    |
| F pathpoints             | F pair                       |
| F points                 | F path                       |
| F print                  | F pt                         |
| F quadruple              | F quadruplet                 |
| F quadruplepoints        | F string                     |
| F quoted                 | F transform                  |
| F size                   | F triplet                    |
| F string                 | F vector                     |
| F transform              | F vectors                    |
| F triplet                | F whatever                   |
| F tripletpoints          | F whd                        |
| F vprint                 | F xy                         |
| F boolean                | F integer                    |
| F bytemap_load_from_file | F lmt_function_x             |
| F cleaned                | F lmt_glyphshape_accent      |
| F color                  | F lmt_glyphshape_baseline    |
| F dataset                | F lmt_glyphshape_boundingbox |
| T datasets               | F lmt_glyphshape_depth       |
| F load                   | F lmt_glyphshape_height      |
| F direct                 | F lmt_glyphshape_italic      |
| F downgradebytemap       | F lmt_glyphshape_llx         |
| F downsamplebytemap      | F lmt_glyphshape_n           |
| F draw                   | F lmt_glyphshape_path        |
| F expandtex              | F lmt_glyphshape_start       |
| F fill                   | F lmt_glyphshape_stop        |

|                           |                    |
|---------------------------|--------------------|
| F lmt_glyphshape_usedbox  | F pairpoints       |
| F lmt_glyphshape_usedline | F path             |
| F lmt_glyphshape_width    | F pathpoints       |
| F lmt_mesh_set            | F points           |
| F lmt_mesh_update         | F processbytemap   |
| F lmt_poisson_generate    | F processingmode   |
| F lmt_start_potrace       | F quadruple        |
| F lmt_step_potrace        | F quadruplepoints  |
| F lmt_stop_potrace        | F quoted           |
| F lmt_svg_include         | F report           |
| F loadbytemap             | T scan             |
| F loadbytemapfile         | F boolean          |
| F mesh_register           | F cmykcolor        |
| F mf_blob_add             | F color            |
| F mf_blob_dimensions      | F expression       |
| F mf_blob_index           | F integer          |
| F mf_blob_new             | F next             |
| F mf_blob_raw_content     | F number           |
| F mf_blob_raw_dimensions  | F numeric          |
| F mf_blob_raw_reset       | F pair             |
| F mf_blob_raw_toutf       | F path             |
| F mf_blob_raw_wipe        | F pen              |
| F mf_blob_size            | F property         |
| F mf_blob_width           | F string           |
| F mf_external_figure      | F symbol           |
| F mf_finish_saving_data   | F token            |
| F mf_formatted_text       | T tokenscanners    |
| F mf_get_outline_text     | F transform        |
| F mf_graphic_text         | T typescanners     |
| F mf_inject_blob          | F whatever         |
| F mf_map_move             | T set              |
| F mf_map_text             | F setbytemap       |
| F mf_named_color          | F setbytemapoctave |
| F mf_outline_text         | F size             |
| F mf_save_data            | T skip             |
| F mf_script_index         | F token            |
| F mf_start_saving_data    | F solve            |
| F mf_stop_saving_data     | F string           |
| F mode                    | F systemmode       |
| F n                       | F transform        |
| F newbytemap              | F triplet          |
| F number                  | F tripletpoints    |
| F numeric                 | F vprint           |
| F pair                    | T mplib            |

|                        |                    |
|------------------------|--------------------|
| F downgradebytemap     | F injectnumeric    |
| F downsamplebytemap    | F injectpair       |
| F execute              | F injectpath       |
| F expandtex            | F injectstring     |
| F fillbytemap          | F injecttransform  |
| F finder               | F injectvector     |
| T finders              | F injectvectors    |
| F file                 | F injectwhatever   |
| F mpstemplate          | F new              |
| F finish               | F newbytemap       |
| F getbytemap           | F peninfo          |
| F getbytemapdata       | F processbytemap   |
| F getcallbackstate     | T propertycodes    |
| F getcodes             | B realtime logging |
| F getcolormodels       | F scanboolean      |
| F getfields            | F scancmykcolor    |
| F gethashentries       | F scancolor        |
| F gethashentry         | F scanexpression   |
| F getinternalactions   | F scaninteger      |
| F getknotstates        | F scannext         |
| F getlastaddtype       | F scannumber       |
| F getlogtargets        | F scannumeric      |
| F getobjectdata        | F scanpair         |
| F getobjectpeninfo     | F scanpath         |
| F getobjectstacking    | F scanpen          |
| F getobjecttypes       | F scanproperty     |
| F getprimitivelegacies | F scanstring       |
| F getprimitiveorigins  | F scansymbol       |
| F getprimitives        | F scantoken        |
| F getpruneoptions      | F scantransform    |
| F getresultstates      | F setbytemap       |
| F getscaledbits        | F setbytemapoctave |
| F getscantypes         | F settolerance     |
| F getstates            | F showcontext      |
| F getstatistics        | F skiptoken        |
| F getstatus            | F solvepath        |
| F gettolerance         | F version          |
| F gettype              | T nanojpeg         |
| F gettypes             | F decode           |
| F injectboolean        | F next             |
| F injectcmykcolor      | T noads            |
| F injectcolor          | F getmathmode      |
| F injectinteger        | T handlers         |
| F injectnumber         | F alternates       |

|                        |                          |
|------------------------|--------------------------|
| F autofences           | F appendaftertail        |
| F classes              | F appendcurrenttail      |
| F collapse             | F beginofmath            |
| F dictionaries         | F checkdiscretionaries   |
| F export               | F checkdiscretionary     |
| F families             | F collapsing             |
| F fencing              | F copy                   |
| F intervals            | F copylist               |
| F kernpairs            | F copyonly               |
| F makeup               | F count                  |
| F normalize            | F currentattributes      |
| F numbers              | F dimensions             |
| F relocate             | F effectiveglue          |
| F render               | F endofmath              |
| F showtree             | F exchange               |
| F snap                 | F fields                 |
| F spacing              | F findattribute          |
| F suspicious           | F findattributerange     |
| F tags                 | F findnode               |
| F unscript             | F firstchar              |
| F unstack              | F firstglyph             |
| F variants             | F firstglyphnode         |
| F process              | F firstitalicglyph       |
| F processnested        | F flattendiscretionaries |
| T processors           | F flattenleaders         |
| T dictionaries         | F flushlist              |
| T intervals            | F flushnode              |
| T suspicious           | F free                   |
| T unscript             | F freeze                 |
| T unstack              | F getanchors             |
| F processouter         | F getattribute           |
| T node                 | F getattributelist       |
| F checkdiscretionaries | F getattributes          |
| F checkdiscretionary   | F getboth                |
| F copy                 | F getbottom              |
| F copylist             | F getbottomdelimiter     |
| F count                | F getbox                 |
| F currentattributes    | F getcachestate          |
| F dimensions           | F getchar                |
| T direct               | F getchardict            |
| F addmargins           | F getcharspec            |
| F addxoffset           | F getchoice              |
| F addxymargins         | F getclass               |
| F addyoffset           | F getcontinuation        |

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|---------------------------|---------------------|
| F getcontrol              | F getnumerator      |
| F getcornerkerns          | F getoffsets        |
| F getcurrenttail          | F getoptions        |
| F getdata                 | F getorientation    |
| F getdegree               | F getparstate       |
| F getdelimiter            | F getpenalty        |
| F getdenominator          | F getpost           |
| F getdepth                | F getpre            |
| F getdirection            | F getprev           |
| F getdisc                 | F getprime          |
| F getdiscpart             | F getpropertystable |
| F getexcept               | F getproperty       |
| F getexpansion            | F getreplace        |
| F getfam                  | F getrightdelimiter |
| F getfield                | F getruledimensions |
| F getfielderror           | F getscale          |
| F getfirstdirectioninlist | F getscales         |
| F getfont                 | F getscrip          |
| F getfontcheck            | F getscrips         |
| F getgeometry             | F getshift          |
| F getglue                 | F getshort          |
| F getglyphdata            | F getslant          |
| F getglyphdimensions      | F getspeciallist    |
| F getheight               | F getstate          |
| F getid                   | F getsub            |
| F getidsubtype            | F getsubpre         |
| F getidsubtypenext        | F getsubtype        |
| F getindex                | F getsup            |
| F getinputfields          | F getsuppre         |
| F getkern                 | F gettop            |
| F getkerndimension        | F gettopdelimiter   |
| F getlanguage             | F gettotal          |
| F getleader               | F getusage          |
| F getleftdelimiter        | F getusedattributes |
| F getlist                 | F getweight         |
| F getlistdimensions       | F getwhd            |
| F getlocalparboxstate     | F getwidth          |
| F getmvl                  | F getwordrange      |
| F getnaturalwhd           | F getxscale         |
| F getnext                 | F getxyscales       |
| F getnodeerrorvalues      | F getsyscale        |
| F getnodes                | F gluetostring      |
| F getnormalizedline       | F hasattribute      |
| F getnucleus              | F hasdimensions     |

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|-----------------------|-----------------------|
| F hasdiscoption       | F migrate             |
| F hasfield            | F mlisttohlist        |
| F hasgeometry         | F naturalhsize        |
| F hasglyph            | F naturalwidth        |
| F hasglyphoption      | F new                 |
| F hasidsubtype        | F newcontinuationatom |
| F hasoptions          | F newfontcheck        |
| F hasusage            | F newmathglyph        |
| F hpack               | F newtextglyph        |
| F hyphenating         | F patchattributes     |
| F id                  | F patchparshape       |
| F ignoremathskip      | F prependbeforehead   |
| F insertafter         | F prependcurrenttail  |
| F insertbefore        | F protectglyph        |
| F insertcurrenthead   | F protectglyphs       |
| F isboth              | F protectglyphsbase   |
| F ischar              | F protectglyphsnone   |
| F ischarcheck         | F protrusionskippable |
| F ischardisc          | F rangedimensions     |
| F isdirect            | F remove              |
| F isfontcheck         | F removefromlist      |
| F isglyph             | F repack              |
| F isitalicglyph       | F reverse             |
| F isloop              | F samefontcheck       |
| F isnext              | F serialized          |
| F isnextchar          | F setanchors          |
| F isnextcharcheck     | F setattribute        |
| F isnextglyph         | F setattributelist    |
| F isnode              | F setattributes       |
| F isprev              | F setattributesinlist |
| F isprevchar          | F setboth             |
| F isprevcharcheck     | F setbottom           |
| F isprevglyph         | F setbottomdelimiter  |
| F issimilarglyph      | F setbox              |
| F issnapped           | F setchar             |
| F isspeciallist       | F setchardict         |
| F isvalid             | F setchoice           |
| F iszeroglue          | F setclass            |
| F kerning             | F setcontinuation     |
| F lastnode            | F setcontrol          |
| F length              | F setcurrenttail      |
| F ligaturing          | F setdata             |
| F makeextensible      | F setdegree           |
| F markglyphprocessing | F setdelimiter        |

|                     |                         |
|---------------------|-------------------------|
| F setdenominator    | F setslant              |
| F setdepth          | F setsnapped            |
| F setdirection      | F setspeciallist        |
| F setdisc           | F setsplit              |
| F setdiscpart       | F setstate              |
| F setexcept         | F setsub                |
| F setexpansion      | F setsubpre             |
| F setfam            | F setsubtype            |
| F setfield          | F setsup                |
| F setfielderror     | F setsuppre             |
| F setfont           | F settop                |
| F setfontcheck      | F settopdelimiter       |
| F setgeometry       | F settotal              |
| F setglue           | F setweight             |
| F setglyphdata      | F setwhd                |
| F setheight         | F setwidth              |
| F setindex          | F show                  |
| F setinputfields    | F size                  |
| F setkern           | F slide                 |
| F setlanguage       | F softenhyphens         |
| F setleader         | F startofpar            |
| F setleftdelimiter  | F subtypes              |
| F setlink           | F tail                  |
| F setlist           | F todirect              |
| F setnext           | F tonode                |
| F setnucleus        | F tostring              |
| F setnumerator      | F tovaliddirect         |
| F setoffsets        | F traverse              |
| F setoptions        | F traversechar          |
| F setorientation    | F traversecontent       |
| F setpenalty        | F traverseglyph         |
| F setpost           | F traverseid            |
| F setpre            | F traverseitalic        |
| F setprev           | F traverseleader        |
| F setprime          | F traverselist          |
| F setproperty       | F traversepossible      |
| F setreplace        | F type                  |
| F setrightdelimiter | F types                 |
| F setruledimensions | F unprotectglyph        |
| F setscale          | F unprotectglyphs       |
| F setscales         | F unsetattribute        |
| F setscript         | F unsetattributes       |
| F setscripts        | F updatefirstandbotmark |
| F setshift          | F updatefirstmarks      |

|                          |                       |
|--------------------------|-----------------------|
| F updatemarks            | F ligaturing          |
| F updatetopmarks         | F makeextensible      |
| F usedlist               | F mlisttohlist        |
| F usesfont               | F new                 |
| F vbalance               | F protectglyph        |
| F verticalbreak          | F protectglyphs       |
| F vpack                  | F protrusionskippable |
| F write                  | F rangedimensions     |
| F xscaled                | F remove              |
| F yscaled                | F serialized          |
| F effectiveglue          | F setattribute        |
| F endofmath              | F setfield            |
| F family_font            | F setfielderror       |
| F fields                 | F setglue             |
| F findattribute          | F setproperty         |
| F flattendiscretionaries | F show                |
| F flushlist              | F size                |
| F flushnode              | F slide               |
| F free                   | F subtypes            |
| F getattribute           | F tail                |
| F getcachestate          | F todirect            |
| F getfield               | F tonode              |
| F getfielderror          | F toString            |
| F getglue                | F traverse            |
| F getnodeerrorvalues     | F traverseid          |
| F getpropertystable      | F type                |
| F getproperty            | F types               |
| F gluetostring           | F unprotectglyph      |
| F hasattribute           | F unprotectglyphs     |
| F hasfield               | F unsetattribute      |
| F hasglyph               | F usedlist            |
| F hpack                  | F usesfont            |
| F hyphenating            | F vpack               |
| F id                     | F write               |
| F insertafter            | T nodes               |
| F insertbefore           | D accentcodes         |
| F instock                | T adaptive            |
| F intracking             | F handlehorizontal    |
| F inuse                  | F handlevertical      |
| F isnode                 | T methods             |
| F iszeroglue             | F set                 |
| F kerning                | F aligned             |
| F lastnode               | F append              |
| F length                 | F apply               |

|                      |                       |
|----------------------|-----------------------|
| F applyvisuals       | D fractioncodes       |
| F astable            | F fullhpack           |
| F basepoints         | F getattr             |
| D boundarycodes      | F getattribute        |
| T boxes              | F getboth             |
| F count              | F getbox              |
| F dimensions         | F getchar             |
| F direct             | F getfield            |
| F dispose            | F getfont             |
| F found              | F getid               |
| F prune              | F getleader           |
| F reset              | F getlist             |
| F restore            | F getnext             |
| F save               | F getprev             |
| F savenode           | F getproperty         |
| T builders           | F getsubtype          |
| D choicecodes        | D gluecodes           |
| F concat             | D glyphcodes          |
| F copy               | T handlers            |
| F copy_node          | F adjusters           |
| F copylist           | F aligncharacter      |
| F countall           | F backgrounds         |
| F currentattributes  | F backgroundspage     |
| F delete             | F backgroundsvbox     |
| T destinations       | F characters          |
| N attribute          | F checkglyphs         |
| T done               | F checkparcounter     |
| F handler            | F cleanupbox          |
| T stack              | F cleanupdate         |
| D dircodes           | F export              |
| D directioncodes     | F finalizebox         |
| D directionvalues    | F finalizelist        |
| D dirvalues          | F flatten             |
| D disccodes          | F flattenline         |
| D discretionarycodes | T linebreakchecks     |
| D fencecodes         | F mathalignrelocate   |
| F fields             | F mathmatrixornaments |
| T fieldtypes         | F mathmatrixrules     |
| D fillcodes          | F migrate             |
| D fillvalues         | F protectglyphs       |
| F firstdirinbox      | F recolor             |
| F flush              | F show                |
| F flushlist          | F showhyphenation     |
| F flushnode          | F showpreamble        |

|                           |                        |
|---------------------------|------------------------|
| F stripping               | T boxed                |
| F tabulateskip            | F addlinenumbers       |
| F textbackgrounds         | F register             |
| F unprotectglyphs         | F setup                |
| F visualizehyphenation    | D data                 |
| F wipe                    | F finalize             |
| F hasattribute            | F number               |
| F hasfield                | F link                 |
| F hpack                   | F linked               |
| F idsandsubtypes          | F list                 |
| F idstostring             | D listcodes            |
| T injections              | F listtutf             |
| F copy                    | D literalvalues        |
| F getligaindex            | F locate               |
| F getthreshold            | D markcodes            |
| F handler                 | T markers              |
| F installgetspaceboth     | F get                  |
| F installnewkern          | F set                  |
| F isspace                 | D mathcodes            |
| F keepcounts              | D mathvalues           |
| F reset                   | F maxboxwidth          |
| F resetcounts             | T migrations           |
| F setcursive              | F setinserts           |
| F setkern                 | F setmarks             |
| F setligaindex            | F new                  |
| F setmark                 | D noadcodes            |
| F setmove                 | D nodecodes            |
| F setposition             | F nopts                |
| F setspacekerns           | T nuts                 |
| F insertafter             | F addmargins           |
| F insertbefore            | F addxoffset           |
| F insertlistafter         | F addxymargins         |
| F installattributehandler | F addyoffset           |
| F is_display_math         | F append               |
| F isdirect                | F appendaftertail      |
| F isnode                  | F apply                |
| F isnut                   | F applyvisuals         |
| D kerncodes               | F beginofmath          |
| F leftmarginwidth         | F checkdiscretionaries |
| T linefillers             | F checkdiscretionary   |
| F filler                  | F checkslide           |
| F handler                 | F collapsing           |
| F set                     | T colors               |
| T lines                   | F set                  |

|                          |                           |
|--------------------------|---------------------------|
| T components             | F getatrrlist             |
| F copynocomponents       | F getatrrs                |
| F copyonlyglyphs         | F getboth                 |
| F count                  | F getbottom               |
| F flush                  | F getbottomdelimiter      |
| F get                    | F getbox                  |
| F set                    | F getboxglue              |
| F concat                 | F getchar                 |
| F copy                   | F getchardict             |
| F copy_properties        | F getcharspec             |
| F copylist               | F getchoice               |
| F copynode               | F getclass                |
| F copyonly               | F getcomponents           |
| F copyvisual             | F getcontinuation         |
| F count                  | F getcontrol              |
| F countall               | F getcornerkerns          |
| F currentattributes      | F getdata                 |
| F delete                 | F getdegree               |
| F dimensions             | F getdelimiter            |
| F dirdimensions          | F getdenominator          |
| F effectiveglue          | F getdepth                |
| F endofmath              | F getdirection            |
| F exchange               | F getdisc                 |
| F findattribute          | F getdiscpart             |
| F findattributerange     | F getdiscretionary        |
| F findnode               | F getexcept               |
| F firstchar              | F getexpansion            |
| F firstglyph             | F getfam                  |
| F firstglyphnode         | F getfield                |
| F firstitalicglyph       | F getfirstdirectioninlist |
| F flattendiscretionaries | F getfont                 |
| F flattenleaders         | F getfontcheck            |
| F flush                  | F getgeometry             |
| F flushlist              | F getglue                 |
| F flushnode              | F getglyphdata            |
| F free                   | F getglyphdimensions      |
| F freeze                 | F getheight               |
| F fullhpack              | F getid                   |
| F fullhpackrl            | F getidsubtype            |
| F getanchors             | F getidsubtypenext        |
| F getattr                | F getindex                |
| F getattribute           | F getinputfields          |
| F getattributelist       | F getkern                 |
| F getattributes          | F getkerndimension        |

|                       |                     |
|-----------------------|---------------------|
| F getlang             | F gettop            |
| F getlanguage         | F gettopdelimiter   |
| F getleader           | F gettotal          |
| F getleftdelimiter    | F getusedattributes |
| F getlist             | F getvalue          |
| F getlistdimensions   | F getweight         |
| F getlocalparboxstate | F getwhd            |
| F getmiddle           | F getwidth          |
| F getmiddledelimiter  | F getwordrange      |
| F getmvl              | F getxscale         |
| F getnaturalwhd       | F getxyscales       |
| F getnext             | F getyscale         |
| F getnormalizedline   | F gluetostring      |
| F getnucleus          | F hasattribute      |
| F getnumerator        | F hasdimensions     |
| F getoffsets          | F hasdiscoption     |
| F getoptions          | F hasfield          |
| F getorientation      | F hasgeometry       |
| F getparstate         | F hasglyph          |
| F getpenalty          | F hasglyphoption    |
| F getpost             | F hasidsubtype      |
| F getpre              | F hasoptions        |
| F getprev             | F hpack             |
| F getprime            | F hyphenating       |
| F getprop             | F ignoremathskip    |
| F getreplace          | F insertafter       |
| F getrightdelimiter   | F insertbefore      |
| F getruledata         | F insertlistafter   |
| F getruledimensions   | F is_display_math   |
| F getscale            | F isboth            |
| F getscales           | F ischar            |
| F getscrip            | F ischarcheck       |
| F getscripts          | F isdirect          |
| F getshift            | F isdone            |
| F getshort            | F isglyph           |
| F getslant            | F isitalicglyph     |
| F getspeciallist      | F isnext            |
| F getstate            | F isnextchar        |
| F getsub              | F isnextcharcheck   |
| F getsubpre           | F isnextglyph       |
| F getsubtype          | F isnode            |
| F getsup              | F isnut             |
| F getsuppre           | F isprev            |
| F getsurround         | F isprevchar        |

|                       |                      |
|-----------------------|----------------------|
| F isprevcharcheck     | F gluespec           |
| F isprevglyph         | F glyph              |
| F issimilarglyph      | F hlist              |
| F issnapped           | F imagerule          |
| F iszeroglue          | F indentskip         |
| F kerning             | F intercharacterglue |
| F lastnode            | F italiccorrection   |
| F length              | F italickern         |
| F ligaturing          | F kern               |
| F link                | F latelua            |
| F linked              | F leader             |
| F locate              | F lefthangskip       |
| F migrate             | F leftmarginkern     |
| F migratebox          | F leftskip           |
| F mlisttohlist        | F lineskip           |
| F naturalhsize        | F literal            |
| F naturalwidth        | F luaboundary        |
| F nestedtracedslide   | F mathchar           |
| F new                 | F mathtextchar       |
| F newcontinuationatom | F negatedglue        |
| F newfontcheck        | F noad               |
| F newmathglyph        | F originliteral      |
| F openup              | F outlinerule        |
| F patchattributes     | F pageliteral        |
| F patchparshape       | F penalizedglue      |
| T pool                | F penalizedspace     |
| F accent              | F penalty            |
| F baselineskip        | F radical            |
| F boundary            | F rawliteral         |
| F boxrule             | F register           |
| F characterkern       | F restore            |
| F choice              | F righthangskip      |
| F cleanup             | F rightmarginkern    |
| F delim               | F rightskip          |
| F delimiter           | F rule               |
| F direction           | F save               |
| F directliteral       | F savepos            |
| F disc                | F setmatrix          |
| F discretionaryglue   | F setstate           |
| F emptyrule           | F shrink             |
| F fence               | F spacefontkern      |
| F fontkern            | F spacingrule        |
| F fraction            | F startrotation      |
| F glue                | F startscaling       |

|                       |                       |
|-----------------------|-----------------------|
| F stock               | F setanchors          |
| F stoprotation        | F setattr             |
| F stopscaling         | F setattribute        |
| F stretch             | F setattributelist    |
| F strurule            | F setattributes       |
| F subbox              | F setattributesinlist |
| F submList            | F setattrlist         |
| F temp                | F setattrs            |
| F usage               | F setattrsinlist      |
| F userdefined         | F setboth             |
| T userids             | F setbottom           |
| F usernode            | F setbox              |
| F userrule            | F setboxglue          |
| F virtualrule         | F setchar             |
| F vlist               | F setchardict         |
| F wordboundary        | F setchoice           |
| F prepend             | F setclass            |
| F prependbeforehead   | F setcomponents       |
| F processranges       | F setcontinuation     |
| F processwords        | F setcontrol          |
| F protectglyph        | F setdata             |
| F protectglyphs       | F setdegree           |
| F protectglyphsbase   | F setdelimiter        |
| F protectglyphsnone   | F setdenominator      |
| F protrusionskippable | F setdepth            |
| F rangedimensions     | F setdirection        |
| F rawprop             | F setdisc             |
| F reference           | F setdiscpart         |
| F reheapack           | F setdiscretionary    |
| F remove              | F setexcept           |
| F removefromlist      | F setexpansion        |
| F repack              | F setfam              |
| F repackhlist         | F setfield            |
| F replace             | F setfont             |
| F reverse             | F setfontcheck        |
| T rules               | F setgeometry         |
| T ruleactions         | F setglue             |
| F box                 | F setglyphdata        |
| F draw                | F setheight           |
| F fill                | F setinputfields      |
| F mp                  | F setkern             |
| F stroke              | F setlang             |
| F userrule            | F setlanguage         |
| F serialized          | F setleader           |

|                      |                    |
|----------------------|--------------------|
| F setleftdelimiter   | F show             |
| F setlink            | F slide            |
| F setlist            | F softenhyphens    |
| F setmiddledelimiter | F somepenalty      |
| F setnext            | F somespace        |
| F setnucleus         | F splitbox         |
| F setnumerator       | F startofpar       |
| F setoffsets         | F striprange       |
| F setoptions         | F tail             |
| F setorientation     | F takeattr         |
| F setparproperty     | F takebox          |
| F setpenalty         | F takelist         |
| F setpost            | F theprop          |
| F setpre             | F tonode           |
| F setprev            | F tonodes          |
| F setprime           | F tonut            |
| F setprop            | F tosequence       |
| F setreplace         | F tostring         |
| F setrightdelimiter  | F tracedslide      |
| F setruledata        | F traverse         |
| F setruledimensions  | F traversechar     |
| F setscale           | F traversecontent  |
| F setscales          | F traverseglyph    |
| F setscript          | F traverseid       |
| F setscripts         | F traverseitalic   |
| F setshift           | F traverseleader   |
| F setslant           | F traverselist     |
| F setsnapped         | F traversepossible |
| F setspeciallist     | T traversers       |
| F setsplit           | F alignrecord      |
| F setstate           | F boundary         |
| F setsub             | F char             |
| F setsubpre          | F content          |
| F setsubtype         | F dir              |
| F setup              | F disc             |
| F setsuppre          | F glue             |
| F setsurround        | F glyph            |
| F settop             | F hlist            |
| F setvalue           | F leader           |
| F setvisual          | F list             |
| F setvisuals         | F mark             |
| F setweight          | F next             |
| F setwhd             | F node             |
| F setwidth           | F penalty          |

|                         |                     |
|-------------------------|---------------------|
| F possible              | F processor         |
| F rule                  | F points            |
| F unset                 | T pool              |
| F vlist                 | F baselineskip      |
| F whatsit               | F cleanup           |
| T treversers            | F directliteral     |
| F char                  | F glyph             |
| F content               | F hlist             |
| F glyph                 | F latelua           |
| F leader                | F leader            |
| F list                  | F lineskip          |
| F node                  | F literal           |
| F possible              | F originliteral     |
| T typesetters           | F register          |
| F tohbox                | F restore           |
| F tohpack               | F save              |
| F tonodes               | F savepos           |
| F tovbox                | F setmatrix         |
| F tovpack               | F stock             |
| F unprotectglyph        | F usage             |
| F unprotectglyphs       | F usernode          |
| F unsetattribute        | F vlist             |
| F unsetattributes       | F prepend           |
| F untracedslide         | F print             |
| F updatefirstandbotmark | T processors        |
| F updatefirstmarks      | F trace_glyph_run_a |
| F updatemarks           | F trace_glyph_run_b |
| F updatetopmarks        | T properties        |
| F usedlist              | T data              |
| F usesfont              | F pts               |
| F verticalbreak         | D radicalcodes      |
| F vianodes              | T references        |
| F vianuts               | N attribute         |
| F vpack                 | T done              |
| F write                 | F handler           |
| F xscaled               | T stack             |
| F yscaled               | F rehpack           |
| F packlist              | F remove            |
| D parcodes              | F repackhlist       |
| D penaltycodes          | F replace           |
| T plugindata            | F report            |
| F finalizer             | F rightmarginwidth  |
| F initializer           | D rulecodes         |
| S name                  | T rules             |

|                        |                  |
|------------------------|------------------|
| F handler              | F set            |
| F process              | D subtypes       |
| F set                  | F tail           |
| F userrule             | F takeattr       |
| F serialize            | F takebox        |
| F serializebox         | T tasks          |
| F serialized           | F actions        |
| F setattr              | F appendaction   |
| F setattribute         | F disableaction  |
| F setattrrlist         | F disablegroup   |
| F setboth              | F enableaction   |
| F setbox               | F enablegroup    |
| F setboxtonaturalwd    | F freeze         |
| F setchar              | F freezegroup    |
| F setfield             | F new            |
| F setfont              | F prependaction  |
| F setleader            | F removeaction   |
| F setlink              | F replaceaction  |
| F setlist              | F restart        |
| F setnext              | F setaction      |
| F setprev              | F showactions    |
| F setproperty          | F table          |
| T shadows              | F tobasepoints   |
| F handler              | F tocentimeters  |
| F set                  | F tociceros      |
| T shifts               | F todidots       |
| F handler              | F todimen        |
| F set                  | F toinches       |
| F showboxes            | F tomillimeters  |
| F showlist             | F tonode         |
| F showsimplelist       | F tonodes        |
| D skipcodes            | F tonut          |
| T snapshots            | F topicas        |
| F getsamples           | F topoints       |
| F resetsamples         | F toscaledpoints |
| F takesample           | F tosequence     |
| F somepenalty          | F toString       |
| F somespace            | F totable        |
| T specialskipcodes     | F totree         |
| F splitbox             | F toutf          |
| F startofpar           | T tracers        |
| F stripdiscretionaries | T colors         |
| T stripping            | F reset          |
| T glyphs               | F set            |

|                   |                      |
|-------------------|----------------------|
| F setlist         | F unsetattribute     |
| F directions      | F upcomingproperties |
| F fontchar        | F usedlist           |
| T frequencies     | F vianodes           |
| F register        | F vianuts            |
| T pool            | F visualizebox       |
| T nodes           | T visualizers        |
| F rule            | F attribute          |
| T nuts            | T attributes         |
| F rule            | F box                |
| F resetproperties | F definelayer        |
| F rule            | F enable             |
| F setlist         | T filters            |
| F setproperties   | N cglue              |
| F start           | N ckern              |
| T steppers        | N continuation       |
| F check           | N hglue              |
| F codes           | N hkern              |
| F features        | N hpenalty           |
| F font            | N pglue              |
| F glyphs          | N sglue              |
| F message         | N short              |
| F messages        | N toddler            |
| F nofsteps        | N vglue              |
| F register        | N vkern              |
| F reset           | N vpenalty           |
| F start           | F getusedfont        |
| F stop            | F handler            |
| F stop            | F markfonts          |
| T transparencies  | T modes              |
| F reset           | N boundary           |
| F set             | N cglue              |
| F setlist         | N ckern              |
| F traverse        | N depth              |
| F traverseid      | N dir                |
| T typesetters     | N discretionary      |
| F hbox            | N expansion          |
| F hpack           | N fontkern           |
| F tohbox          | N glue               |
| F tohpack         | N glyph              |
| F tonodes         | N hbox               |
| F tovbox          | N hglue              |
| F tovpack         | N hkern              |
| F vpack           | N hpenalty           |

|                 |                    |
|-----------------|--------------------|
| N insert        | D dimenfactors     |
| N italic        | F formatted        |
| N kern          | F formattedfloat   |
| N line          | F formattedinteger |
| N marginkern    | F fractiontobyte   |
| N mark          | F idiv             |
| N math          | N maxdimen         |
| N mathglue      | F nopts            |
| N mathkern      | F nubasepoints     |
| N origin        | F nupoints         |
| N par           | F percent          |
| N penalty       | F points           |
| N pglue         | F pts              |
| N sglue         | F signed           |
| N short         | F sparseexponent   |
| N simple        | F splitdimen       |
| N simplehbox    | F tol6dot16        |
| N simplevbox    | F tobasepoints     |
| N simplevtop    | F tobitstring      |
| N space         | F tocentimeters    |
| N strut         | F tociceros        |
| N toddler       | F tocontext        |
| N user          | F todidots         |
| N vbox          | F todimen          |
| N vglue         | F toediths         |
| N vkern         | F toevenhex        |
| N vpenalty      | F toinches         |
| N vtop          | F tomillimeters    |
| N whatsit       | F tonumberf        |
| F register      | F tonumberg        |
| F registercache | F topicas          |
| F setfont       | F topoints         |
| F setlayer      | F toscaled         |
| F setruledglyph | F toscaledpoints   |
| F setvisual     | F totoves          |
| F vpack         | F valid            |
| D whatsitcodes  | T objects          |
| F write         | T data             |
| T number        | F dimensions       |
| F %             | F found            |
| F basepoints    | N n                |
| F bytetodecimal | F page             |
| F compactfloat  | F reference        |
| F decimaltobyte | F register         |

|                    |                   |
|--------------------|-------------------|
| F restore          | F load            |
| T optional         | T loaded          |
| T curl             | T lz4             |
| F escape           | F compress        |
| F fetch            | F decompresssize  |
| F getversion       | F framecompress   |
| F initialize       | F framedecompress |
| F unescape         | F initialize      |
| T foreign          | T lzma            |
| F abivalues        | F compress        |
| F getbuffer        | F decompress      |
| F initialize       | F initialize      |
| F load             | T lzo             |
| F newbuffer        | F compress        |
| F totable          | F decompresssize  |
| F types            | F initialize      |
| T ghostscript      | T mujs            |
| F execute          | F dofile          |
| F initialize       | F execute         |
| T graphicsmagick   | F initialize      |
| F execute          | F reset           |
| F getnoisetypes    | F setclosefile    |
| F initialize       | F setconsole      |
| T hb               | F setfindfile     |
| F getshapers       | F setopenfile     |
| F getversion       | F setreadfile     |
| F initialize       | F setseekfile     |
| F loadfont         | T mysql           |
| F shapestring      | F close           |
| T imagemagick      | F execute         |
| F execute          | F getmessage      |
| F initialize       | F initialize      |
| T kpse             | F open            |
| F expand_braces    | T openssl         |
| F expand_path      | F getversion      |
| F expand_var       | F initialize      |
| F find_file        | F sign            |
| F find_files       | F verify          |
| F get_file_types   | T postgres        |
| F initialize       | F close           |
| F readable_file    | F execute         |
| F set_program_name | F getmessage      |
| F var_value        | F initialize      |
| T library          | F open            |

|                   |                      |
|-------------------|----------------------|
| T sqlite          | S platform           |
| F close           | F remove             |
| F execute         | F rename             |
| F getmessage      | F resultof           |
| F initialize      | F runtime            |
| F open            | T selfarg            |
| T zint            | S selfbin            |
| F execute         | S selfcore           |
| F initialize      | S selfdir            |
| T zstd            | S selflink           |
| F compress        | S selfname           |
| F decompress      | S selfpath           |
| F initialize      | F serialwrite        |
| F optionalrequire | F setenv             |
| T os              | F setexitcode        |
| F __getenv__      | F setlocale          |
| F __setenv__      | F sleep              |
| S binsuffix       | F startuptime        |
| T binsuffixes     | F time               |
| N bits            | F timezone           |
| F clock           | F tmpname            |
| F converttime     | F today              |
| F date            | S type               |
| F difftime        | F uname              |
| F enableansi      | F uuid               |
| D env             | F validddate         |
| F execute         | F weekday            |
| F exit            | F where              |
| F fulltime        | F which              |
| F getcodepage     | T package            |
| F getenv          | S config             |
| F getnamevalues   | S cpath              |
| F gettimeofday    | F extralibpath       |
| F gettypevalues   | F extralibpaths      |
| F getunamefields  | F extraluapath       |
| F isleapyear      | F extraluapaths      |
| F launch          | T helpers            |
| S libsuffix       | T builtin            |
| F localtime       | F path specification |
| S name            | F preload table      |
| S newline         | F cleanpath          |
| F nofdays         | F loaded             |
| F now             | F loadedaslib        |
| F pipeto          | F loadedbyformat     |

|                       |                       |
|-----------------------|-----------------------|
| F loadedbyname        | B buff-imp-parsed-xml |
| F loadedbypath        | B buff-imp-tex        |
| F lualibfile          | B buff-imp-xml        |
| T methods             | B buff-ini            |
| F all in one fallback | B buff-par            |
| F already loaded      | B buff-ver            |
| F cpath specification | B char-enc            |
| F lib extra list      | B chem-ini            |
| F lib variable format | B chem-str            |
| F lua extra list      | B cldf-com            |
| F lua variable format | B cldf-ver            |
| F not loaded          | B colo-icc            |
| F path specification  | B colo-ini            |
| F preload table       | B cont-run            |
| F qualified path      | B core-con            |
| F reset loaded        | B core-ctx            |
| F registerpath        | B core-dat            |
| F report              | B core-sys            |
| T sequence            | T curl                |
| F showed              | F escape              |
| B trace               | F fetch               |
| B traceused           | F getversion          |
| F unload              | S libfile             |
| F libpaths            | S libpath             |
| T loaded              | F unescape            |
| B anch-loc            | B driv-shp            |
| B anch-pgr            | B file-mod            |
| B anch-snc            | B file-syn            |
| B back-exp            | B font-afk            |
| B back-exp-imp-fnt    | B font-agl            |
| B back-exp-imp-mth    | B font-aux            |
| B back-exp-imp-ref    | B font-cff            |
| B back-exp-imp-tag    | B font-chk            |
| B back-imp-lua        | B font-cid            |
| B back-imp-mps        | B font-col            |
| B back-imp-pdf        | B font-con            |
| B back-imp-pdp        | B font-ctx            |
| B back-inc            | B font-def            |
| B blob-ini            | B font-dsp            |
| B buff-imp-default    | B font-enc            |
| B buff-imp-escaped    | B font-enh            |
| B buff-imp-lua        | B font-fbk            |
| B buff-imp-mp         | B font-fmp            |
| B buff-imp-nested     | B font-hsh            |

|                       |            |
|-----------------------|------------|
| B font-imp-checks     | B font-pat |
| B font-imp-combining  | B font-prv |
| B font-imp-compound   | B font-san |
| B font-imp-digits     | B font-sel |
| B font-imp-dimensions | B font-shp |
| B font-imp-effects    | B font-sol |
| B font-imp-italics    | B font-syn |
| B font-imp-ligatures  | B font-tfm |
| B font-imp-math       | B font-tpk |
| B font-imp-notused    | B font-trt |
| B font-imp-properties | B font-ttf |
| B font-imp-quality    | B font-txt |
| B font-imp-reorder    | B font-vfc |
| B font-imp-scripts    | B font-vir |
| B font-imp-spacekerns | B good-ctx |
| B font-imp-tex        | B good-gen |
| B font-imp-text       | B good-ini |
| B font-imp-tracing    | B good-mth |
| B font-imp-tweaks     | B grph-bmp |
| B font-imp-unicode    | B grph-con |
| B font-ini            | B grph-epd |
| B font-lig            | B grph-fil |
| B font-log            | B grph-img |
| B font-lua            | B grph-inc |
| B font-map            | B grph-pat |
| B font-mpf            | B grph-raw |
| B font-mps            | B grph-rul |
| B font-nod            | B grph-trf |
| B font-ogr            | B grph-u3d |
| B font-one            | B java-ini |
| B font-onr            | T json     |
| B font-osd            | F load     |
| B font-ota            | F tojson   |
| B font-otc            | F tolua    |
| B font-otd            | F toString |
| B font-oth            | B lang-cnt |
| B font-oti            | B lang-def |
| B font-otj            | B lang-dis |
| B font-otl            | B lang-hup |
| B font-oto            | B lang-hyp |
| B font-otr            | B lang-ini |
| B font-ots            | B lang-lab |
| B font-ott            | B lang-rep |
| B font-oup            | B lang-tra |

|                           |                |
|---------------------------|----------------|
| B lang-txt                | T source       |
| B lang-url                | F cat          |
| B lang-wrd                | F chain        |
| B libs-imp-curl           | F empty        |
| B libs-imp-ghostscript    | F error        |
| B libs-imp-graphicsmagick | F file         |
| B libs-ini                | F rewind       |
| B lpdf-ano                | F simplify     |
| B lpdf-col                | F string       |
| B lpdf-epa                | B lxml-css     |
| B lpdf-epd                | B lxml-dir     |
| B lpdf-fix                | B lxml-ent     |
| B lpdf-fix-imp-contents   | B lxml-ini     |
| B lpdf-fix-imp-fonts      | B lxml-mms     |
| B lpdf-fld                | B lxml-sor     |
| B lpdf-fmt                | B lxml-tex     |
| B lpdf-grp                | B math-act     |
| B lpdf-img                | B math-ali     |
| B lpdf-ini                | B math-dim     |
| B lpdf-lmt                | B math-ext     |
| B lpdf-mis                | B math-fbk     |
| B lpdf-ren                | B math-fnt     |
| B lpdf-rul                | B math-frc     |
| B lpdf-sig                | B math-ini     |
| B lpdf-tag                | B math-map     |
| B lpdf-u3d                | B math-mps     |
| B lpdf-wid                | B math-noa     |
| B lpdf-xmp                | B math-pre     |
| T ltn12                   | B math-rad     |
| N BLOCKSIZE               | B math-ren     |
| T filter                  | B math-spa     |
| F chain                   | B math-tag     |
| F cycle                   | B math-txt     |
| T pump                    | B math-vfu     |
| F all                     | B meta-blb     |
| F step                    | B meta-fnt     |
| F report                  | B meta-fun     |
| T sink                    | B meta-imp-txt |
| F chain                   | B meta-ini     |
| F error                   | B meta-lua     |
| F file                    | B meta-nod     |
| F null                    | B meta-pdf     |
| F simplify                | B meta-tex     |
| F table                   | B mlib-ctx     |

|                |                     |
|----------------|---------------------|
| B mlib-fio     | F closestream       |
| B mlib-int     | F dictionarytotable |
| B mlib-lmp     | F getarray          |
| B mlib-lmt     | F getboolean        |
| B mlib-lua     | F getbox            |
| B mlib-mat     | F getcatalog        |
| B mlib-mpf     | F getdictionary     |
| B mlib-msh     | F getencodingvalues |
| B mlib-pdf     | F getfieldtypes     |
| B mlib-pos     | F getfromarray      |
| B mlib-pps     | F getfromdictionary |
| B mlib-ptr     | F getfromobject     |
| B mlib-ran     | F getfromreference  |
| B mlib-run     | F getfromstream     |
| B mlib-scn     | F getinfo           |
| B mlib-snc     | F getinteger        |
| B mlib-svg     | F getmemoryusage    |
| B node-ali     | F getname           |
| B node-bck     | F getnofobjects     |
| B node-fnt     | F getnofpages       |
| B node-par     | F getnumber         |
| B node-ref     | F getobjectrange    |
| B node-rul     | F getpage           |
| B node-tra     | F getpages          |
| B node-tyt     | F getpermissions    |
| B pack-obj     | F getsize           |
| B pack-ori     | F getstatus         |
| B pack-rul     | F getstatusvalues   |
| B page-blk     | F getstream         |
| B page-cst     | F getstring         |
| B page-flt     | F gettrailer        |
| B page-ini     | F getversion        |
| B page-inj     | F new               |
| B page-ins     | F open              |
| B page-lin     | F openfile          |
| B page-mix     | F openstream        |
| B page-otr     | F pagestotable      |
| B page-pst     | F readfromstream    |
| B page-sel     | F readwholestream   |
| B page-str     | F type              |
| T pdfdecode    | F unencrypt         |
| T pdfc         | B phys-dim          |
| F arraytotable | T pngdecode         |
| F close        | F applyfilter       |

|                   |                    |
|-------------------|--------------------|
| F expand          | F expand           |
| F frompalette     | F floor            |
| F interlace       | F frombyte         |
| F makemask        | F fromchar         |
| F palettemask     | F fromposit        |
| F reduce          | F integer          |
| F setexperiment   | F log              |
| F splitmask       | F log10            |
| F tocmymk         | F log1p            |
| F togray          | F log2             |
| F tomask          | F logb             |
| F transparentmask | F max              |
| T posit           | F min              |
| F NaN             | F modf             |
| F NaR             | F new              |
| F __add           | F pow              |
| F __band          | F rotate           |
| F __bor           | F round            |
| F __bxor          | F rounded          |
| F __div           | F shift            |
| F __eq            | F sin              |
| F __le            | F sqrt             |
| F __lt            | F tan              |
| F __mul           | F tobyte           |
| S __name          | F tochar           |
| F __pow           | F tonumber         |
| F __shl           | F toposit          |
| F __shr           | F tostring         |
| F __sub           | T potrace          |
| F __tostring      | F checked          |
| F __unm           | F concat           |
| F abs             | F contourplot      |
| F acos            | F convert          |
| F asin            | F count            |
| F atan            | F flush            |
| F band            | F free             |
| F bor             | F fromfile         |
| F bxor            | F getbitmap        |
| F ceil            | F getnewfields     |
| F conj            | F getpolicyvalues  |
| F copy            | F getprocessfields |
| F cos             | F new              |
| F exp             | F process          |
| F exp2            | F setbitmap        |

|              |                     |
|--------------|---------------------|
| F stripped   | F HEX384            |
| F totable    | F HEX512            |
| F trace      | F digest256         |
| B publ-aut   | F digest384         |
| B publ-dat   | F digest512         |
| B publ-fnd   | F hash256           |
| B publ-inc   | F hash384           |
| B publ-ini   | F hash512           |
| B publ-jrn   | F hex256            |
| B publ-oth   | F hex384            |
| B publ-reg   | F hex512            |
| B publ-sor   | F sum256            |
| B publ-tra   | F sum384            |
| B publ-usr   | F sum512            |
| T qrcodegen  | T sio               |
| F bitmap     | F read2dot14        |
| F generate   | F readbytes         |
| B regi-ini   | F readbytetable     |
| B scrn-but   | F readcardinal1     |
| B scrn-fld   | F readcardinal1le   |
| B scrn-hlp   | F readcardinal2     |
| B scrn-ini   | F readcardinal2le   |
| B scrn-pag   | F readcardinal3     |
| B scrn-ref   | F readcardinal3le   |
| B scrn-wid   | F readcardinal4     |
| B scrp-cjk   | F readcardinal4le   |
| B scrp-eth   | F readcardinaltable |
| B scrp-ini   | F readcline         |
| B scrp-tha   | F readcstring       |
| B scrp-tib   | F readdouble        |
| T serial     | F readdoublele      |
| F __gc       | F readfixed2        |
| S __name     | F readfixed4        |
| F __tostring | F readfloat         |
| F close      | F readfloatle       |
| F open       | F readfloatle12     |
| F send       | F readfloatle6      |
| F tostring   | F readinteger1      |
| F write      | F readinteger1le    |
| T sha2       | F readinteger2      |
| F HASH256    | F readinteger2le    |
| F HASH384    | F readinteger3      |
| F HASH512    | F readinteger3le    |
| F HEX256     | F readinteger4      |

|                       |                             |
|-----------------------|-----------------------------|
| F readinteger4le      | S content-description       |
| F readintegertable    | S content-disposition       |
| F tocardinal1         | S content-encoding          |
| F tocardinal1le       | S content-id                |
| F tocardinal2         | S content-language          |
| F tocardinal2le       | S content-length            |
| F tocardinal3         | S content-location          |
| F tocardinal3le       | S content-md5               |
| F tocardinal4         | S content-range             |
| F tocardinal4le       | S content-transfer-encoding |
| T socket              | S content-type              |
| N BLOCKSIZE           | S cookie                    |
| N _SETSIZE            | S date                      |
| N _SOCKETINVALID      | S diagnostic-code           |
| F bind                | S dsn-gateway               |
| F choose              | S etag                      |
| F connect             | S expect                    |
| F connect4            | S expires                   |
| F connect6            | S final-log-id              |
| T dns                 | S final-recipient           |
| F getaddrinfo         | S from                      |
| F gethostname         | S host                      |
| F getnameinfo         | S if-match                  |
| F tohostname          | S if-modified-since         |
| F toip                | S if-none-match             |
| F gettime             | S if-range                  |
| T headers             | S if-unmodified-since       |
| T canonic             | S in-reply-to               |
| S accept              | S keywords                  |
| S accept-charset      | S last-attempt-date         |
| S accept-encoding     | S last-modified             |
| S accept-language     | S location                  |
| S accept-ranges       | S max-forwards              |
| S action              | S message-id                |
| S age                 | S mime-version              |
| S allow               | S original-envelope-id      |
| S alternate-recipient | S original-recipient        |
| S arrival-date        | S pragma                    |
| S authorization       | S proxy-authenticate        |
| S bcc                 | S proxy-authorization       |
| S cache-control       | S range                     |
| S cc                  | S received                  |
| S comments            | S received-from-mta         |
| S connection          | S references                |

|                         |                   |
|-------------------------|-------------------|
| S referer               | T sinkt           |
| S remote-mta            | F close-when-done |
| S reply-to              | F default         |
| S reporting-mta         | F http-chunked    |
| S resent-bcc            | F keep-open       |
| S resent-cc             | F skip            |
| S resent-date           | F sleep           |
| S resent-from           | F source          |
| S resent-message-id     | T sourcet         |
| S resent-reply-to       | F by-length       |
| S resent-sender         | F default         |
| S resent-to             | F http-chunked    |
| S retry-after           | F until-closed    |
| S return-path           | F tcp             |
| S sender                | F tcp4            |
| S server                | F tcp6            |
| S smtp-remote-recipient | T tp              |
| S status                | N TIMEOUT         |
| S subject               | F connect         |
| S te                    | F try             |
| S to                    | T url             |
| S trailer               | F absolute        |
| S transfer-encoding     | F build           |
| S upgrade               | F build_path      |
| S user-agent            | F escape          |
| S vary                  | F parse           |
| S via                   | F parse_path      |
| S warning               | F unescape        |
| S will-retry-until      | B sort-ini        |
| S www-authenticate      | B sort-lan        |
| S x-mailer              | B spac-ali        |
| F lower                 | B spac-brk        |
| F normalize             | B spac-chr        |
| T http                  | B spac-hor        |
| N TIMEOUT               | B spac-ovl        |
| S USERAGENT             | B spac-par        |
| F genericform           | B spac-pas        |
| F open                  | B spac-prf        |
| F request               | B spac-twi        |
| F newtry                | B spac-ver        |
| F protect               | T sparse          |
| F report                | F concat          |
| F select                | F get             |
| F sink                  | F max             |

|                         |                  |
|-------------------------|------------------|
| F min                   | B strc-con       |
| F new                   | B strc-doc       |
| F range                 | B strc-flt       |
| F restore               | B strc-ini       |
| F set                   | B strc-itm       |
| F traverse              | B strc-lev       |
| F wipe                  | B strc-lst       |
| T status                | B strc-mar       |
| F getbalancestate       | B strc-mat       |
| F getbufferstate        | B strc-not       |
| F getcallbackstate      | B strc-num       |
| F getconstants          | B strc-pag       |
| F geterrorlinestate     | B strc-ref       |
| F geterrorstate         | B strc-reg       |
| F getexpandstate        | B strc-rsc       |
| F getfilestate          | B strc-syn       |
| F getfontstate          | B strc-tag       |
| F gethalferrorlinestate | B strc-usr       |
| F gethashstate          | T string         |
| F gethyphenationstate   | F autodouble     |
| F getinputstate         | F autosingle     |
| F getinsertstate        | F booleanstring  |
| F getlanguagestate      | F byte           |
| F getlinebreakstate     | F bytepairs      |
| F getlookupstate        | F bytes          |
| F getluastate           | F bytetable      |
| F getmarkstate          | F char           |
| F getmvlstate           | F characterpairs |
| F getneststate          | F characters     |
| F getnodestate          | F checkedsplit   |
| F getparameterstate     | F chrtointeger   |
| F getpoolstate          | F collapsespaces |
| F getreadstate          | F containsws     |
| F getsavestate          | F count          |
| F getsparsestate        | F dectointeger   |
| F getstringstate        | F dump           |
| F gettexstate           | F escapedpattern |
| F gettokenstate         | F escapedquotes  |
| F getwarningstate       | F f6             |
| T iocodes               | F find           |
| F list                  | F format         |
| F resetmessages         | F formatter      |
| B strc-bkm              | D formatters     |
| B strc-blk              | F fullstrip      |

|                   |                      |
|-------------------|----------------------|
| F gmatch          | F topattern          |
| F gsub            | F totable            |
| T hashes          | F tounicode16        |
| T X00             | F toutf              |
| T spaces          | F toutf16            |
| F hextocharacters | F toutf32            |
| F hextointeger    | F toutf8             |
| F is_boolean      | F tracedchar         |
| F is_empty        | F unescapedquotes    |
| F itself          | F unpack             |
| F len             | F unquote            |
| F limit           | F unquoted           |
| F linetable       | F upper              |
| F longtostring    | F utf16toutf8        |
| F lower           | F utfcharacter       |
| F match           | F utfcharacters      |
| F nospaces        | F utfcharacterstable |
| F octtointeger    | F utflength          |
| F optionalquoted  | F utfpadd            |
| F pack            | F utfpadding         |
| F packrowscolumns | F utftabletostring   |
| F packsize        | F utfvalue           |
| F quote           | F utfvalues          |
| F quoted          | F utfvaluetable      |
| F rep             | F valid              |
| F replacenewlines | F wordsplitter       |
| F reverse         | B symb-emj           |
| F split           | B symb-ini           |
| F splitintolines  | B syst-cmp           |
| F splitlines      | B tabl-ali           |
| F splitup         | B tabl-ntb           |
| F strip           | B tabl-tbl           |
| F sub             | B tabl-xtb           |
| F texhashed       | T table              |
| F texnewlines     | F append             |
| F tformat         | F are_equal          |
| F toHEX           | F combine            |
| F toboolean       | F compact            |
| F tobytes         | F concat             |
| F tocontext       | F contains           |
| F todec           | F copy               |
| F todimen         | F count              |
| F tohex           | F create             |
| F tonodes         | F derive             |

|                        |                         |
|------------------------|-------------------------|
| F deserialize          | F sparse                |
| F fastcopy             | F strip                 |
| F fastserialize        | F sub                   |
| F filtered             | F swapped               |
| F flattened            | F tocontext             |
| F fromhash             | F tocsv                 |
| F getn                 | F tofile                |
| F has_one_entry        | F tohandle              |
| F hashed               | F tohash                |
| F identical            | F toxml                 |
| F imerge               | F unique                |
| F imerged              | F unpack                |
| F insert               | B task-ini              |
| F is_empty             | T tex                   |
| F is_simple_table      | T amcode                |
| F keys                 | T attribute             |
| F load                 | F attributetracking     |
| F loweredkeys          | D automigrationcodes    |
| F makeweb              | D autoparagraphcodes    |
| F merge                | F badness               |
| F merged               | D badnessmodecodes      |
| F mirrored             | F balance               |
| F move                 | D balancecallbackcodes  |
| F pack                 | T boundaries            |
| F prepend              | D names                 |
| F print                | D numbers               |
| F remove               | F system                |
| F reverse              | T box                   |
| F reversed             | D boxcontinuationcodes  |
| F save                 | D boxoptioncodes        |
| F sequenced            | T boxresources          |
| F serialize            | F getbox                |
| F setmetatablecall     | F getdimensions         |
| F setmetatableindex    | F save                  |
| F setmetatableindices  | F use                   |
| F setmetatablenewindex | D breakcodes            |
| F sort                 | D buildcodes            |
| F sorted               | T catcode               |
| F sortedhash           | T cccode                |
| F sortedhashkeys       | D charactercontrolcodes |
| F sortedhashonly       | D charactertagcodes     |
| F sortedindexonly      | F chardef               |
| F sortedkeys           | D classoptioncodes      |
| F sortedpairs          | T codes                 |

|                                 |                                |
|---------------------------------|--------------------------------|
| D conditionals                  | F getbalancesteptoptionvalues  |
| D constants                     | F getbox                       |
| T count                         | F getboxcontinuationvalues     |
| F cprint                        | F getboxdir                    |
| N ctdcatcodes                   | F getboxoptionvalues           |
| N ctxcatcodes                   | F getboxresourcebox            |
| F definefont                    | F getboxresourcedimensions     |
| T delcode                       | F getbreakcontextvalues        |
| T dimen                         | F getbuildcontextvalues        |
| F dimensiondef                  | F getcardinalvalue             |
| D directioncodes                | F getcatcode                   |
| D directives                    | F getccode                     |
| D discoptioncodes               | F getcharactercontrolvalues    |
| D discpartcodes                 | F getcharactertagvalues        |
| F dontcomplain                  | F getcount                     |
| D doublescriptoptioncodes       | F getcurrentmvl                |
| F enableprimitives              | F getdelayedgluelocationvalues |
| F error                         | F getdelayedgluetargetvalues   |
| F expandasvalue                 | F getdelcode                   |
| D experiments                   | F getdelcodes                  |
| F extraprimitives               | F getdimen                     |
| F fatalerror                    | F getdimensionvalue            |
| D fillcodes                     | F getdirectionvalues           |
| D flagcodes                     | F getdiscoptionvalues          |
| F fontidentifier                | F getdiscpartvalues            |
| F fontname                      | F getdoublescriptoptionvalues  |
| F forcehmode                    | F getemptyparagraphmodevalues  |
| F forceinputstatefile           | F geterrorrecoverymodevalues   |
| F forceinputstateline           | F geterrorvalues               |
| F fprint                        | F getfillvalues                |
| D frozenparcodes                | F getflagvalues                |
| F get                           | F getfloat                     |
| F getadjustoptionvalues         | F getfontdimension             |
| F getalignmentcontextvalues     | F getfontoffamily              |
| F getamcode                     | F getfrozenparvalues           |
| F getappendadjustcontextvalues  | F getglue                      |
| F getappendmigratecontextvalues | F getglueoptionvalues          |
| F getattribute                  | F getglyphdata                 |
| F getautomigrationvalues        | F getglyphdiscvalues           |
| F getautoparagraphvalues        | F getglyphoptionvalues         |
| F getbadnessmodevalues          | F getglyphprotectionvalues     |
| F getbalancecallbackvalues      | F getglyphscales               |
| F getbalanceparameterfields     | F getglyphscript               |
| F getbalanceresultfields        | F getglyphstate                |

|                               |                              |
|-------------------------------|------------------------------|
| F getgroupvalues              | F getmathcode                |
| F gethccode                   | F getmathcodes               |
| F gethelptext                 | F getmathcontrolvalues       |
| F gethmcodes                  | F getmathdir                 |
| F gethyphenationvalues        | F getmathgluevalues          |
| F getiftypes                  | F getmathoptionvalues        |
| F getinputstatefile           | F getmathparametervalues     |
| F getinputstateline           | F getmathscriptordvalues     |
| F getinputstatemode           | F getmathscriptsmodevalues   |
| F getinsertcategoryvalues     | F getmathstylenamevalues     |
| F getinsertcontent            | F getmathstylevalues         |
| F getinsertdepth              | F getmathstylevariant        |
| F getinsertdistance           | F getmathsurroundvalues      |
| F getinsertheight             | F getmathvariantpresets      |
| F getinsertlimit              | F getmathvariantvalues       |
| F getinsertmaxplaced          | F getmeasure                 |
| F getinsertmultiplier         | F getmissingcharactervalues  |
| F getinsertoptionvalues       | F getmode                    |
| F getinsertsplitvalues        | F getmodevalues              |
| F getinsertwidth              | F getmuglue                  |
| F getintegervalue             | F getmuskip                  |
| F getinteraction              | F getmvloptionvalues         |
| F getinteractionmodes         | F getnest                    |
| F getiovalues                 | F getnestfields              |
| F getkerneloptionvalues       | F getnestlevel               |
| F getkernoptionvalues         | F getnoadoptionvalues        |
| F getlargestusedmark          | F getnormalizelinevalues     |
| F getlccode                   | F getnormalizeparvalues      |
| F getlinebreakparameterfields | F getnospacesmodevalues      |
| F getlinebreakresultfields    | F getoutputactive            |
| F getlinebreakstatevalues     | F getoverloadstate           |
| F getlinedir                  | F getpacktypevalues          |
| F getlist                     | F getpagecontextvalues       |
| F getlistanchorvalues         | F getpagestate               |
| F getlistfields               | F getpagestatevalues         |
| F getlistgeometryvalues       | F getparagraphfillmodevalues |
| F getlistsignvalues           | F getparagraphoptionvalues   |
| F getlocalbox                 | F getparametermodevalues     |
| F getlocalboxlocations        | F getparcontextvalues        |
| F getlocallevel               | F getpardataspecifications   |
| F getmark                     | F getpardir                  |
| F getmarknames                | F getparmodevalues           |
| F getmath                     | F getparstate                |
| F getmathclassoptionvalues    | F getparstatefields          |

|   |                             |   |                          |
|---|-----------------------------|---|--------------------------|
| F | getpartriggervalue          | F | integerdef               |
| F | getpenaltyoptionvalue       | D | interactioncodes         |
| F | getpositvalue               | F | isattribute              |
| F | getprepoststatevalue        | F | isbox                    |
| F | getprimitivelegacies        | F | iscount                  |
| F | getprimitiveorigins         | F | isdefined                |
| F | getprotrusionboundaryvalue  | F | isdimen                  |
| F | getregisterindex            | F | isfloat                  |
| F | getruleoptionvalue          | F | isglue                   |
| F | getrunstate                 | F | ismuglue                 |
| F | getrunstatevalue            | F | ismuskip                 |
| F | getsfcode                   | F | isprintable              |
| F | getshapingpenaltiesvalue    | F | isskip                   |
| F | getskip                     | F | istoks                   |
| F | getsnappingvalue            | F | lastnodetype             |
| F | getspacefactorvalue         | T | lccode                   |
| F | getspaceskipvalue           | F | linebreak                |
| F | getspcode                   | D | linebreakstatecodes      |
| F | getspecialmathclassvalue    | D | listanchorcodes          |
| F | getspecification            | D | listgeometrycodes        |
| F | getspecificationoptionvalue | T | lists                    |
| F | gettextcontrolvalue         | D | listsigncodes            |
| F | gettextdir                  | N | luacatcodes              |
| F | gettoks                     | T | magicconstants           |
| F | getuccode                   | S | activecharacternamespace |
| F | getuleaderlocationvalue     | N | allfitnessvalue          |
| F | getunitclassvalue           | N | assumedmathcontrol       |
| F | getusedmarks                | N | awfulbad                 |
| F | getvsplitcontextvalue       | N | decentcriterion          |
| T | glue                        | N | defaultcatcodetable      |
| D | glueoptioncodes             | N | defaultcharactercontrol  |
| D | glyphdisccodes              | N | defaultdeadcycles        |
| D | glyphoptioncodes            | N | defaulteqnogapstep       |
| D | groupcodes                  | N | defaultthangafter        |
| F | hashtokens                  | N | defaultoutputbox         |
| T | hccode                      | N | defaultpredisplaygap     |
| T | hmcode                      | N | defaultrule              |
| N | hshcatcodes                 | N | defaultspacefactor       |
| D | hyphenationcodes            | N | defaulttolerance         |
| D | ifs                         | N | deplorable               |
| N | inicatcodes                 | N | ejectpenalty             |
| D | insertcategorycodes         | N | ignoredepth              |
| D | insertoptioncodes           | N | infinitebad              |
| D | insertsplitcodes            | N | infinitepenalty          |

|                              |                          |
|------------------------------|--------------------------|
| N infinity                   | N maxnoffonts            |
| N largewidthexcess           | N maxnoflanguages        |
| N loosecriterion             | N maxnofmarks            |
| N mathallclass               | N maxnofmathfamilies     |
| N mathbeginclass             | N maxquarterword         |
| N mathdefaultpenalty         | N maxscalefactor         |
| N mathendclass               | N maxsizeofword          |
| N mathfirstuserclass         | N maxspacefactor         |
| N mathlastuserclass          | N maxtoksregisterindex   |
| N maxattributeregisterindex  | N maxtwinlength          |
| N maxboxregisterindex        | N mincardinal            |
| N maxbytecodeindex           | N mindatavalue           |
| N maxcalculatedbadness       | N mindimen               |
| N maxcardinal                | N mindimension           |
| N maxcharactercode           | N minhalfword            |
| N maxdatavalue               | N mininfinity            |
| N maxdimen                   | N mininteger             |
| N maxdimenregisterindex      | N minmvlindex            |
| N maxdimension               | N minnoffitnessvalues    |
| N maxdimensionregisterindex  | N minquarterword         |
| N maxendlinecharacter        | N minscalefactor         |
| N maxfloatregisterindex      | N minspacefactor         |
| N maxfontadjustshrinkfactor  | N nocatcodetable         |
| N maxfontadjuststep          | N null                   |
| N maxfontadjuststretchfactor | N nullflag               |
| N maxfunctionreference       | N nullfont               |
| N maxglueregisterindex       | N onebp                  |
| N maxhalfvalue               | N presetrulethickness    |
| N maxhalfword                | N runningrule            |
| N maxinteger                 | N sapharhigh             |
| N maxintegerregisterindex    | N saphartlow             |
| N maxintregisterindex        | N saphartmiddle          |
| N maxlimitedscale            | N smallstretchability    |
| N maxmarkindex               | N specialspacefactor     |
| N maxmathclasscode           | N texeqtbsize            |
| N maxmathfamilyindex         | N texhashprime           |
| N maxmathscalingfactor       | N texhashsize            |
| N maxmathstylescale          | N texmemorymode          |
| N maxmuglueregisterindex     | N two                    |
| N maxmvlindex                | N undefinedmathparameter |
| N maxnewlinecharacter        | N unity                  |
| N maxnofbytecodes            | N unusedattributevalue   |
| N maxnofcatcodetables        | N unusedmathfamily       |
| N maxnoffitnessvalues        | N unusedmathstyle        |

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|---------------------------|-----------------------|
| N unusedscriptvalue       | F quitlocal           |
| N unusedstatevalue        | F quittoks            |
| N zeroglu                 | F resetparagraph      |
| F mathchardef             | N rlnatcodes          |
| T mathcode                | F romannumeral        |
| D mathcontrolcodes        | F round               |
| D mathoptioncodes         | D ruleoptioncodes     |
| D mathparametercodes      | F runlocal            |
| D mathscriptordercodes    | D runstatecodes       |
| D mathscriptsmodecodes    | F runstring           |
| T modelevels              | F runtoks             |
| N horizontal              | F saveboxresource     |
| N math                    | F scale               |
| N unset                   | F scantoks            |
| N vertical                | F set                 |
| D modes                   | F setamcode           |
| F mprint                  | F setattribute        |
| T muglu                   | F setbalanceshape     |
| T muskip                  | F setbox              |
| D mvloptioncodes          | F setboxdir           |
| T nest                    | F setcardinalvalue    |
| N nilcatcodes             | F setcatcode          |
| D noadooptioncodes        | F setcccode           |
| D normalizecodes          | F setconditional      |
| D normalizeparcodes       | F setcount            |
| D nospacesmodecodes       | F setdelcode          |
| N notcatcodes             | F setdimen            |
| F number                  | F setdimensionvalue   |
| D paragraphfillmodecodes  | F setfloat            |
| D paragraphoptioncodes    | F setglue             |
| D parcontextcodes         | F setglyphdata        |
| D partriggercodes         | F setglyphscript      |
| D penaltyoptioncodes      | F setglyphstate       |
| F poplocal                | F sethccode           |
| F popsavelevel            | F sethmcode           |
| T posit                   | F setinputstatefile   |
| F positdef                | F setinputstateline   |
| F preparelinebreak        | F setinputstatemode   |
| F primitives              | F setinsertcontent    |
| F print                   | F setinsertdistance   |
| D protrusionboundarycodes | F setinsertlimit      |
| N prtcatcodes             | F setinsertmaxplaced  |
| F pushlocal               | F setinsertmultiplier |
| F pushsavelevel           | F setintegervalue     |

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|----------------------------|------------------------|
| F setinteraction           | F toscaled             |
| F setlccode                | N tpacatcodes          |
| F setlinedir               | N tpbcacodes           |
| F setlist                  | F tprint               |
| F setlocalbox              | F trackedattribute     |
| F setmath                  | D trackers             |
| F setmathcode              | F triggerbuildpage     |
| F setmathdir               | N txtcatcodes          |
| F setmuglue                | T ucode                |
| F setmuskip                | F uprint               |
| F setnest                  | F useboxresource       |
| F setoverloadstate         | D userdiscoptioncodes  |
| F setpardir                | D userglyphoptioncodes |
| F setpositvalue            | N vrbcatcodes          |
| F setrunstate              | F write                |
| F setsfcode                | T texio                |
| F setskip                  | F closeinput           |
| F setspcode                | F forceendoffile       |
| F settextdir               | F getinputindex        |
| F settoks                  | F getselectorvalues    |
| F setuccode                | F getsourcefilename    |
| T sfcode                   | F setlogfile           |
| D shapingpenaltiescodes    | F terminal             |
| F shiftparshape            | F write                |
| F shipout                  | F write_nl             |
| F showcontext              | F writenl              |
| T skip                     | F writeselector        |
| D snappingcodes            | F writeselectorlf      |
| F snapshotpar              | F writeselectornl      |
| F sp                       | T token                |
| D spacefactorcodes         | F create               |
| D spaceskipcodes           | F expand               |
| D specialmathclasscodes    | F expand_macro         |
| D specificationoptioncodes | F expandmacro          |
| F splitbox                 | F future_expand        |
| D splitcodes               | F futureexpand         |
| F sprint                   | F get_active           |
| F stringtocodesbitmap      | F get_cmdchrsc         |
| D systemmodes              | F get_cmdname          |
| F takebox                  | F get_command          |
| N texcatcodes              | F get_csname           |
| D textcontrolcodes         | F get_cstoken          |
| T toks                     | F get_dimension        |
| F tonumber                 | F get_expandable       |

|                     |                      |
|---------------------|----------------------|
| F get_fields        | F getprimitive       |
| F get_flags         | F getprimitives      |
| F get_frozen        | F getprotected       |
| F get_id            | F getrange           |
| F get_immutable     | F gettok             |
| F get_index         | F gettolerant        |
| F get_instance      | F gobble             |
| F get_integer       | F gobble_dimension   |
| F get_macro         | F gobble_integer     |
| F get_meaning       | F gobbledimension    |
| F get_noaligned     | F gobbleinteger      |
| F get_parameters    | F grab               |
| F get_permanent     | F grabstring         |
| F get_primitive     | F inhibit            |
| F get_protected     | F is_defined         |
| F get_range         | F is_next_char       |
| F get_tok           | F is_token           |
| F get_tolerant      | F isactivestring     |
| F getactive         | F isdefined          |
| F getcmdchrsc       | F isnextchar         |
| F getcmdname        | F istoken            |
| F getcommand        | F locatemacro        |
| F getcommandvalues  | F new                |
| F getconstant       | F peek_next          |
| F getcsname         | F peek_next_char     |
| F getcstoken        | F peek_next_expanded |
| F getdimension      | F peeknext           |
| F getexpandable     | F peeknextchar       |
| F getexpansion      | F peeknextexpanded   |
| F getfields         | F pop_macro          |
| F getflags          | F popmacro           |
| F getfrozen         | F push_macro         |
| F getfunctionvalues | F pushmacro          |
| F getid             | F put_back           |
| F getimmutable      | F put_next           |
| F getindex          | F putback            |
| F getinstance       | F putnext            |
| F getinteger        | F save_lua           |
| F getlength         | F savelua            |
| F getmacro          | F scan_argument      |
| F getmeaning        | F scan_box           |
| F getnoaligned      | F scan_cardinal      |
| F getparameters     | F scan_char          |
| F getpermanent      | F scan_cmdchr        |

|                         |                       |
|-------------------------|-----------------------|
| F scan_cmdchr_expanded  | F scanglue            |
| F scan_code             | F scanint             |
| F scan_csname           | F scaninteger         |
| F scan_delimited        | F scanintegerargument |
| F scan_dimen            | F scankey             |
| F scan_float            | F scankeyword         |
| F scan_glue             | F scankeywordcs       |
| F scan_integer          | F scanletters         |
| F scan_key              | F scanluacardinal     |
| F scan_keyword          | F scanluainteger      |
| F scan_keyword_cs       | F scanluanumber       |
| F scan_letters          | F scannext            |
| F scan_luacardinal      | F scannextchar        |
| F scan_luainteger       | F scannextexpanded    |
| F scan_luanumber        | F scanposit           |
| F scan_next             | F scanreal            |
| F scan_next_char        | F scanscale           |
| F scan_next_expanded    | F scanskip            |
| F scan_real             | F scanstring          |
| F scan_scale            | F scantoken           |
| F scan_skip             | F scantokencode       |
| F scan_string           | F scantokenlist       |
| F scan_token            | F scantokenstring     |
| F scan_token_code       | F scantoks            |
| F scan_tokenlist        | F scanvalue           |
| F scan_toks             | F scanword            |
| F scan_value            | F serialize           |
| F scan_word             | F set_dimension       |
| F scanargument          | F set_integer         |
| F scanbox               | F set_lua             |
| F scancardinal          | F set_macro           |
| F scanchar              | F setdimension        |
| F scancmdchr            | F setinteger          |
| F scancmdchrexpanded    | F setlua              |
| F scancode              | F setmacro            |
| F scancsname            | F setmacrofrommark    |
| F scancstoken           | F setmacrotonothing   |
| F scandelimited         | F skip_next           |
| F scandetokened         | F skip_next_expanded  |
| F scandimen             | F skipnext            |
| F scandimenargument     | F skipnextexpanded    |
| F scandimension         | F type                |
| F scandimensionargument | F undefine_macro      |
| F scanfloat             | F undefinemacro       |

|            |                  |
|------------|------------------|
| B trac-bld | F char           |
| B trac-jus | S charpattern    |
| B trac-par | F codepoint      |
| B trac-riv | F codes          |
| B trac-sig | F len            |
| B trac-vis | F offset         |
| B type-ini | T vector         |
| B typo-adj | F add            |
| B typo-bld | F append         |
| B typo-brk | F average        |
| B typo-cap | F ceiling        |
| B typo-chr | F checkoverlap   |
| B typo-cln | F collectoverlap |
| B typo-dha | F concat         |
| B typo-dif | T contour        |
| B typo-dig | F average        |
| B typo-dir | F bounds         |
| B typo-drp | F checkoverlap   |
| B typo-duc | F collectoverlap |
| B typo-fkr | F getarea        |
| B typo-fln | F getmesh        |
| B typo-hid | F makemesh       |
| B typo-inj | F overlapping    |
| B typo-itc | F show           |
| B typo-krn | F sort           |
| B typo-lan | F copy           |
| B typo-lbx | F crossproduct   |
| B typo-man | F delete         |
| B typo-mar | F determinant    |
| B typo-ovl | F div            |
| B typo-pag | F equal          |
| B typo-par | F exchange       |
| B typo-pnc | F floor          |
| B typo-prc | F get            |
| B typo-rep | F getdimensions  |
| B typo-rub | F getepsilon     |
| B typo-spa | F getmemory      |
| B typo-stc | F getmesh        |
| B typo-sus | F getrc          |
| B typo-syn | F getrow         |
| B typo-tal | F getsize        |
| B typo-wrp | F getstacking    |
| B unic-ini | F gettype        |
| T utf8     | T helpers        |

|                 |                 |
|-----------------|-----------------|
| F points        | F get           |
| F transform     | F ispoint       |
| F xrotation     | F iszero        |
| F xyzscale      | F len           |
| F yrotation     | F length        |
| F zrotation     | F mul           |
| F homogenize    | F neg           |
| F identity      | F negate        |
| F inner         | F new           |
| F insert        | F norm          |
| F inverse       | F normalize     |
| F ismesh        | F perp          |
| F ispoints      | F perpendicular |
| F issingular    | F set           |
| F isvector      | F sub           |
| F iszero        | F tostring      |
| T mesh          | F totable       |
| F get           | F type          |
| F getdimensions | T points        |
| F gettypevalues | F get           |
| F ismesh        | F getbounds     |
| F new           | F getnormal     |
| F set           | F getxyz        |
| F tostring      | F ispoints      |
| F totable       | F new           |
| F type          | F set           |
| F meshname      | F setnormal     |
| F mul           | F setxyz        |
| F negate        | F tostring      |
| F new           | F totable       |
| F normalize     | F type          |
| F onecolumn     | F product       |
| F onerow        | F remove        |
| T point         | F replace       |
| F add           | F round         |
| F copy          | F rowechelon    |
| F cross         | F set           |
| F crossproduct  | F setepsilon    |
| F dist          | F setnext       |
| F distance      | F setrc         |
| F div           | F setstacking   |
| F dot           | F slice         |
| F dotproduct    | F sort          |
| F equal         | F sub           |

|               |                |
|---------------|----------------|
| F swap        | F sqrt         |
| F tostring    | F tan          |
| F totable     | F tanh         |
| F transpose   | F topair       |
| F triangulate | F tostring     |
| F truncate    | F totable      |
| F type        | F voigt        |
| T xcomplex    | F voigt_hwhm   |
| F I           | T xdecimal     |
| F __add       | F __add        |
| F __div       | F __band       |
| F __eq        | F __bor        |
| F __mul       | F __bxor       |
| S __name      | F __div        |
| F __pow       | F __eq         |
| F __sub       | F __idiv       |
| F __tostring  | F __le         |
| F __unm       | F __lt         |
| F abs         | F __mod        |
| F acos        | F __mul        |
| F acosh       | S __name       |
| F arg         | F __pow        |
| F asin        | F __shl        |
| F asinh       | F __shr        |
| F atan        | F __sub        |
| F atanh       | F __tostring   |
| F conj        | F __unm        |
| F cos         | F abs          |
| F cosh        | F band         |
| F dawson      | F bor          |
| F erf         | F bxor         |
| F erfc        | F conj         |
| F erfcx       | F copy         |
| F erfi        | F exp          |
| F exp         | F getprecision |
| F i           | F ln           |
| F imag        | F log          |
| F log         | F max          |
| F new         | F min          |
| F pow         | F minus        |
| F proj        | F new          |
| F real        | F plus         |
| F sin         | F pow          |
| F sinh        | F rotate       |

|                |                |
|----------------|----------------|
| F setprecision | F log          |
| F shift        | F log10        |
| F sqrt         | F log1p        |
| F toengstring  | F log2         |
| F tonumber     | F mid          |
| F tostring     | F mod          |
| F trim         | F new          |
| T xinterval    | F neweps       |
| F __add        | F pow          |
| F __div        | F seteq        |
| F __eq         | F setge        |
| F __le         | F setgt        |
| F __lt         | F settle       |
| F __mod        | F settl        |
| F __mul        | F sin          |
| S __name       | F sinh         |
| F __pow        | F sqr          |
| F __sub        | F sqrt         |
| F __tostring   | F tan          |
| F __unm        | F tanh         |
| F abs          | F topair       |
| F acos         | F tostring     |
| F acosh        | F totable      |
| F asin         | F usedendian   |
| F asinh        | F within       |
| F asstring     | T xmath        |
| F atan         | F acos         |
| F atanh        | F acosh        |
| F cos          | F asin         |
| F cosh         | F asinh        |
| F diameter     | F atan         |
| F equal        | F atan2        |
| F erf          | F atanh        |
| F erfc         | F cbrt         |
| F exp          | F ceil         |
| F exp10        | F copysign     |
| F exp2         | F cos          |
| F expm1        | F cosh         |
| F greater      | F crossproduct |
| F greaterequal | F deg          |
| F hull         | F dotproduct   |
| F intersect    | F erf          |
| F less         | F erfc         |
| F lessequal    | F exp          |

|             |                  |
|-------------|------------------|
| F exp2      | F tgamma         |
| F expm1     | F trunc          |
| F fabs      | F y0             |
| F fdim      | F y1             |
| F floor     | F yn             |
| F fma       | T xzip           |
| F fmax      | F adler32        |
| F fmin      | F compress       |
| F fmod      | F compresssize   |
| F frexp     | F crc32          |
| F gamma     | F decompress     |
| F hypot     | F decompresssize |
| N inf       | T zbuffer        |
| F isfinite  | F bounds         |
| F isinf     | F composite      |
| F isnan     | F crop           |
| F isnormal  | F edgepoint      |
| F j0        | F flatten        |
| F j1        | F get            |
| F jn        | F getcolor       |
| F ldexp     | F getdepth       |
| F lgamma    | F getnormal      |
| F log       | F getopacity     |
| F log10     | F getsize        |
| F log1p     | F implicit       |
| F log2      | F iszbuffer      |
| F logb      | F meshmesh       |
| F modf      | F new            |
| N nan       | F points         |
| F nearbyint | F process        |
| F nextafter | F project        |
| F normalize | F resolve        |
| N pi        | F set            |
| F pow       | F setcolor       |
| F rad       | F setdepth       |
| F remainder | F setnormal      |
| F remquo    | F setopacity     |
| F round     | F setup          |
| F scalbn    | F smoothen       |
| F sin       | F stipple_0      |
| F sinh      | F stipple_1      |
| F sqrt      | F stipple_2      |
| F tan       | F stipple_3      |
| F tanh      | F stipple_4      |

|                      |                        |
|----------------------|------------------------|
| F stipple_setup      | F registersheet        |
| F tobytes            | F registerspreadsheets |
| F tostring           | F reset                |
| F totable            | F resetdirect          |
| F transform          | F reshape              |
| F trianglebounds     | F setarea              |
| F triangles          | F setextra             |
| F type               | F sethsize             |
| T loaders            | F sethspan             |
| F loadlib            | F setlines             |
| F luapaths           | F setmvl               |
| S path               | F setpresent           |
| F poplibpath         | F setproperties        |
| F popluapath         | F setstart             |
| T preload            | F shape                |
| F pushlibpath        | F showshape            |
| F pushluapath        | F state                |
| F searchpath         | F status               |
| T pagebuilders       | F submvl               |
| T columnsets         | F submvlbalance        |
| F add                | T injections           |
| F addmvl             | F flushafter           |
| F block              | F flushbefore          |
| F blockrows          | F save                 |
| F check              | T mixedcolumns         |
| F checkmvl           | F cleanup              |
| F clean              | F finalize             |
| T data               | F getlist              |
| F define             | F getrest              |
| F definesub          | F getsplit             |
| F delayedsheet       | F setsplit             |
| F finishflush        | F pairs                |
| F flushareas         | T parametersets        |
| F flushcolumn        | F pcall                |
| F goto               | T pdf                  |
| F gotoslot           | F immediateobj         |
| F limit              | T physics              |
| F noto               | T units                |
| F prepareflush       | F registershortcut     |
| F presetsheets       | F registerunit         |
| F presetspreadsheets | D tables               |
| F put                | F print                |
| F putdirect          | T publications         |
| F registerarea       | F addtexentry          |

|                        |              |
|------------------------|--------------|
| F analyze              | T categories |
| F anywhere             | T article    |
| D authorcache          | S category   |
| D authorcollapsers     | T extra      |
| T authorhashers        | T fields     |
| F invertedshort        | S author     |
| F normal               | S editor     |
| F normalinverted       | S journal    |
| F normalshort          | S keywords   |
| F sequential           | S note       |
| F sequentialshort      | S number     |
| F short                | S pages      |
| D authormap            | S title      |
| F authortoregister     | S volume     |
| T btx                  | S year       |
| T casters              | T optional   |
| F author               | T required   |
| F keyword              | T sets       |
| F pagenumber           | T author     |
| F range                | T virtual    |
| F checkeddataset       | T book       |
| T citevariants         | S category   |
| F author               | T extra      |
| F authornum            | T fields     |
| F authoryear           | S address    |
| F authoryears          | S author     |
| F category             | S edition    |
| F default              | S editor     |
| F entry                | S keywords   |
| F index                | S note       |
| F keywords             | S number     |
| F num                  | S publisher  |
| F page                 | S subtitle   |
| F short                | S title      |
| F tag                  | S volume     |
| F textnum              | S year       |
| F year                 | T optional   |
| D collected            | T required   |
| T components           | T sets       |
| F author               | T author     |
| F concatstate          | T editionset |
| F converttoxml         | T virtual    |
| T currentspecification | T demo-a     |
| S author               | S category   |

|                 |                   |
|-----------------|-------------------|
| T extra         | B authoryear      |
| T fields        | B authoryears     |
| S author        | B num             |
| S institution   | B suffix          |
| S organization  | T datasets        |
| S subtitle      | T detailed        |
| S title         | F endnotes_to_btx |
| S year          | T enhancer        |
| T optional      | S arguments       |
| T required      | T askip           |
| T sets          | T attr            |
| T author        | B dirty           |
| T virtual       | T gskip           |
| T demo-b        | T kind            |
| S category      | T list            |
| T extra         | T system          |
| T fields        | T order           |
| S author        | N steps           |
| S institution   | T enhancers       |
| S organization  | F details         |
| S subtitle      | F order           |
| S title         | F suffixes        |
| S year          | F finder          |
| T optional      | F firstofrange    |
| T required      | F found           |
| T sets          | F get             |
| T authors       | F getcasted       |
| T virtual       | F getdetail       |
| S comment       | F getdirect       |
| S copyright     | F getfaster       |
| T fields        | F getfield        |
| S name          | F getfuzzy        |
| T types         | F getindex        |
| S author        | D inspectors      |
| S editor        | T journals        |
| S keywords      | F abbreviated     |
| S number        | F add             |
| S page          | F expanded        |
| S pages         | F load            |
| S volume        | F save            |
| S version       | F lastofrange     |
| D virtual       | T lists           |
| T virtualfields | F collectentries  |
| B authornum     | F combiinlist     |

|                      |                       |
|----------------------|-----------------------|
| F fetchentries       | F loadreplacementfile |
| F filterall          | T meanings            |
| F flushcombi         | F new                 |
| F flushentry         | F okay                |
| F flushtag           | F oneorange           |
| T methods            | F parenttag           |
| F dataset            | F permitted           |
| F force              | F prerollcmdstring    |
| F global             | F refman_to_btx       |
| F label              | F resolvedname        |
| F local              | F save                |
| F nofregistered      | T savers              |
| F prepareentries     | F bib                 |
| F register           | F lua                 |
| F sameasprevious     | F xml                 |
| T sorters            | F search              |
| F cite               | F setcategory         |
| F dataset            | F setspecification    |
| F default            | F singularorplural    |
| F index              | F sortedentries       |
| F list               | T sortmethods         |
| F reference          | T authortitle         |
| F short              | T sequence            |
| F used               | T authorityyear       |
| F uservariable       | T sequence            |
| T listvariants       | T dataset             |
| F default            | T sequence            |
| F index              | T key                 |
| F num                | T sequence            |
| F short              | T specifications      |
| F tag                | F splitauthor         |
| F load               | F splitoneauthor      |
| F loadbibdata        | T statistics          |
| F loaddefinitionfile | N nofbytes            |
| T loaders            | N nofdatasets         |
| F bbl                | N nofdefinitions      |
| F bib                | N nofshortcuts        |
| F buffer             | T tables              |
| F endnote            | D implicits           |
| F json               | D origins             |
| F lua                | D privates            |
| F refman             | D sets                |
| F registercleaner    | D specials            |
| F xml                | D types               |

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|---------------------------|--------------------------------|
| D virtuals                | S cacheversion                 |
| F tags                    | F checkedvariable              |
| T tracers                 | F cleanedpathlist              |
| F showdatasetauthors      | D cleaners                     |
| F showdatasetcompleteness | F cleanpath                    |
| F showdatasetfields       | F cleanpathlist                |
| F showentry               | F cleanupbinfile               |
| F showfields              | D concatenators                |
| F showhashedauthors       | S configbanner                 |
| F showtables              | F configurationfiles           |
| F showvariants            | D dangerous                    |
| T typesetters             | F datastate                    |
| F author                  | T decompressors                |
| F string                  | F register                     |
| F usedataset              | F unregister                   |
| F usedentries             | T defaultsuffixes              |
| T writers                 | F dirstatus                    |
| F author                  | F dowithfilesandreport         |
| F keyword                 | F dowithfilesintree            |
| F pagenumber              | F dowithpath                   |
| F range                   | F dowithvariable               |
| F rawequal                | T executers                    |
| F rawget                  | F expandbraces                 |
| F rawlen                  | F expandedpathfromlist         |
| F rawset                  | F expandedpathlist             |
| T regimes                 | F expandedpathlistfromvariable |
| D backmapping             | F expandpath                   |
| F cleanup                 | F expandpathfromvariable       |
| F disable                 | F expansion                    |
| F enable                  | F extendtexmfvariable          |
| F fromregime              | F filtered_from_content        |
| F list                    | F find_file                    |
| D mapping                 | F find_files                   |
| F pop                     | F findbinfile                  |
| F process                 | F findctxfile                  |
| F push                    | D finders                      |
| F toregime                | F findfile                     |
| F translate               | F findfiles                    |
| F require                 | F findgivenfile                |
| T resolvers               | F findgivenfiles               |
| F allprefixes             | F findlib                      |
| F appendhash              | F findpath                     |
| F automount               | F findpk                       |
| F booleanvariable         | F findtexfile                  |

|                           |                     |
|---------------------------|---------------------|
| F findwildcardfile        | F loadtexfile       |
| F findwildcardfiles       | F loadtime          |
| F formatofsuffix          | F locateformat      |
| F formatofvariable        | D locators          |
| D formats                 | S luacnffallback    |
| F foundintree             | S luacnfname        |
| F foundintrees            | S luacnfspec        |
| D generators              | S luacnfstate       |
| F get_from_content        | T macros            |
| F getdetails              | F convertfile       |
| F getenv                  | F decodecomment     |
| F getextrapaths           | F enablecomment     |
| F getfilehashes           | F encodecomment     |
| F gethashes               | F preprocessed      |
| F getownpath              | F processmk         |
| F getreadfilename         | F processmklx       |
| D hashers                 | F processmkvi       |
| S homedir                 | F version           |
| F ignorelibrary           | N maxreadlevel      |
| F initialized             | F methodhandler     |
| F installinputfilehandler | F missinglibrary    |
| F installinputlinehandler | F openbinfile       |
| F jobpath                 | D openers           |
| T jobs                    | F openfile          |
| F collectstructure        | F opentexfile       |
| F currentcomponent        | S ownpath           |
| F currentenvironment      | F popextrapath      |
| F currentproduct          | F popinputname      |
| F currentproject          | F poppath           |
| F currentstructure        | D prefixes          |
| F justacomponent          | F prependhash       |
| F namelist                | F pushextrapath     |
| D processors              | F pushinputname     |
| F productcomponent        | F pushpath          |
| F usefile                 | F registerextrapath |
| F joinpath                | F registerfile      |
| F knownvariables          | F registerfilehash  |
| T libraries               | F registerintrees   |
| F optionalloaded          | F registermethod    |
| F validoptional           | F registerzipfile   |
| F load                    | D relations         |
| F loadbinfile             | F renew             |
| D loaders                 | F renewcache        |
| F loadlua-lib             | F repath            |

|                          |                                     |
|--------------------------|-------------------------------------|
| F reset                  | F variableofformat                  |
| F resetextrapaths        | F variableofformatorsuffix          |
| F resetresolve           | F wildcardpattern                   |
| F resolve                | T sandbox                           |
| D savers                 | F blockrequire                      |
| F scandata               | F disablelibraries                  |
| F scanfiles              | F disablerunners                    |
| T schemes                | F enable                            |
| T cleaners               | F filehandlerone                    |
| F md5                    | F filehandlertwo                    |
| F none                   | F finalizer                         |
| F strip                  | F getrunner                         |
| F cleanname              | F initializer                       |
| F fetchstring            | F iohandler                         |
| F fetchtable             | F logcalls                          |
| F install                | F logfiles                          |
| F setdynamic             | F original                          |
| F setenv                 | F overload                          |
| F showdetails            | F possiblepath                      |
| F showpath               | F redefine                          |
| F simplescanfiles        | F register                          |
| F splitconfigurationpath | F registerbinary                    |
| F splitexpansions        | F registerlibrary                   |
| F splitmethod            | F registerroot                      |
| F splitpath              | F registerrunner                    |
| F stackpath              | F report                            |
| F starttiming            | F setfilenamelogger                 |
| F stoptiming             | F setlogger                         |
| D suffixes               | F setreporter                       |
| D suffixmap              | F settrace                          |
| F suffixofformat         | F validfilename                     |
| F texdatablob            | T scripts                           |
| F toppath                | T autofontfeature                   |
| D tracers                | F disable                           |
| F unexpandedpath         | F enable                            |
| F unexpandedpathlist     | F handler                           |
| F unresolve              | D colors                            |
| F updaterelations        | F decomposehangul                   |
| F updatescript           | T defaults                          |
| F uselibrary             | N inter_char_half_shrink_factor     |
| D usertypes              | N inter_char_half_stretch_factor    |
| F usezipfile             | N inter_char_hangul_penalty         |
| F validatedpath          | N inter_char_quarter_shrink_factor  |
| F variable               | N inter_char_quarter_stretch_factor |

|                             |                     |
|-----------------------------|---------------------|
| N inter_char_shrink_factor  | N digitsoffset      |
| N inter_char_stretch_factor | N ignoredoffset     |
| N inter_word_stretch_factor | N replacementoffset |
| F getdata                   | T validmethods      |
| F getinjector               | B ch                |
| F getsplitter               | B mc                |
| F getstatus                 | B mm                |
| D handlers                  | B pc                |
| D helpers                   | B pm                |
| D injectors                 | B uc                |
| T inserters                 | B zc                |
| F nobreakspace_after        | B zm                |
| F nobreakspace_before       | D definitions       |
| F space_after               | F firstofsplit      |
| F space_before              | F packch            |
| F zerowidthspace_after      | F packuc            |
| F zerowidthspace_before     | F replacementlist   |
| F installdataset            | F setlanguage       |
| F installmethod             | F sort              |
| D numbertodataset           | T splitters         |
| D numbertohandler           | F utf               |
| F reset                     | F strip             |
| F set                       | D tracers           |
| F setstatus                 | F update            |
| D splitters                 | T statistics        |
| F select                    | F benchmarktimer    |
| T set                       | F checkfmtstatus    |
| F contains                  | F currenttime       |
| F create                    | F elapsed           |
| F tolist                    | F elapsedindeed     |
| F tonumber                  | F elapsedseconds    |
| F totable                   | F elapsedtime       |
| F setinspector              | B enable            |
| F setmathparameters         | T feedback          |
| F setmetatable              | F info              |
| T sorters                   | F processtates      |
| F basicsorter               | F register          |
| T comparers                 | F reportstates      |
| F basic                     | F setstate          |
| T constants                 | F formatruntime     |
| S defaultdigits             | F hastiming         |
| S defaultlanguage           | F memused           |
| S defaultmethod             | F register          |
| N digitsmaximum             | F resettiming       |

|                   |                  |
|-------------------|------------------|
| F runtime         | F setstate       |
| F savefmtstatus   | D states         |
| F show            | D tobosaved      |
| F showmemory      | F uservariable   |
| F showusage       | T bookmarks      |
| F starttiming     | T extras         |
| F stoptiming      | F get            |
| N threshold       | F mergesections  |
| F timed           | F register       |
| F tracefunction   | F reset          |
| T storage         | F tosections     |
| F allocate        | F finalize       |
| T data            | F flatten        |
| F mark            | F installhandler |
| F marked          | F merge          |
| N max             | S method         |
| N min             | F overload       |
| N nofmodules      | F place          |
| N noftables       | F register       |
| F register        | F setopened      |
| D shared          | F setup          |
| D storedfunctions | T counters       |
| B strip           | F add            |
| N tofmodules      | F analyze        |
| N toftables       | F check          |
| T streams         | D collected      |
| F collect         | F compact        |
| F disable         | F converted      |
| F enable          | F currentvalue   |
| F flush           | D data           |
| F initialize      | F define         |
| F push            | F first          |
| F start           | F get            |
| F stop            | F isset          |
| F synchronize     | F last           |
| T structures      | F next           |
| F atlocation      | F prev           |
| T blocks          | F previous       |
| D collected       | F raw            |
| F define          | F record         |
| F empty           | F reset          |
| F print           | F restart        |
| F save            | F restore        |
| F select          | F save           |

|                        |                  |
|------------------------|------------------|
| F set                  | F setup          |
| F setlevel             | D stored         |
| F setoffset            | T itemgroups     |
| F setown               | D collected      |
| F setstate             | D tobosaved      |
| F setvalue             | T lists          |
| T specials             | F addto          |
| F userpage             | F analyze        |
| F subs                 | F bookmark       |
| D tobosaved            | D cached         |
| F value                | D collected      |
| F way                  | F discard        |
| F currentsectionnumber | F enhance        |
| T descriptions         | T enhancers      |
| T documents            | F external       |
| D data                 | F filter         |
| F initialize           | F formulanumber  |
| F preset               | F getresult      |
| F reset                | F groupindex     |
| T floats               | F hasnumberdata  |
| T formulas             | F haspagedata    |
| T helpers              | F hastitledata   |
| F analyze              | F integrate      |
| F formulanumber        | F iscached       |
| F merged               | D kinds          |
| F page                 | F label          |
| F pageofinternal       | F location       |
| F prefix               | D names          |
| F prefixlastpage       | F number         |
| F prefixpage           | D ordered        |
| F simplify             | F page           |
| F title                | F popnesting     |
| F touserdata           | F prefix         |
| T inserts              | F prefixednumber |
| F attach               | F prefixedpage   |
| D data                 | F process        |
| F define               | D pushed         |
| F detach               | F pushnesting    |
| F getdata              | F rawnumber      |
| F getlocation          | F rawrealpage    |
| F getname              | F rawuserpage    |
| F getnumber            | F realpage       |
| F nofdetached          | F reorder        |
| F setlocation          | F reordered      |

|                           |                     |
|---------------------------|---------------------|
| T result                  | F getlabels         |
| F savedlistnumber         | F in_body           |
| F savedlistprefixednumber | F is_odd            |
| F savedlisttitle          | F mark              |
| D sectionblocks           | F marked            |
| F size                    | F markedlist        |
| F title                   | N nopages           |
| D tobesaved               | F number            |
| F use                     | F on_right          |
| F userdata                | F save              |
| F userpage                | D tobesaved         |
| F uservalue               | F toranges          |
| T marks                   | T references        |
| F number                  | F analyze           |
| F title                   | F checked           |
| T notes                   | F checkedfile       |
| F checkpagechange         | F checkedfileorurl  |
| F define                  | F checkedprogram    |
| F flushrange              | F checkedrealpage   |
| F get                     | F checkedurl        |
| F getdeltapage            | D collected         |
| F getinternal             | U componentsplitter |
| F getn                    | F currentmetadata   |
| F getstate                | F currentorder      |
| F getstorecount           | D currentset        |
| F getstoreflushed         | F define            |
| F hascontent              | D defined           |
| F internal                | D derived           |
| F internalid              | F enhance           |
| F listindex               | D executers         |
| D numbers                 | F export            |
| F ordered                 | T files             |
| F postpone                | T data              |
| F resetpostponed          | F define            |
| F restore                 | F found             |
| F save                    | F get               |
| F setstate                | F filter            |
| D states                  | F filterdefault     |
| F store                   | D filters           |
| T pages                   | D flaginternals     |
| F allmarked               | F forceinnermode    |
| F analyze                 | F from              |
| D collected               | D functions         |
| F fraction                | F get               |

|                                  |                                    |
|----------------------------------|------------------------------------|
| F getcurrentlabel                | F setreferencerealpage             |
| F getcurrentmetadata             | F setstructure                     |
| F getcurrentprefixspec           | D specials                         |
| F getinnermethod                 | F splitcomponent                   |
| F getinternalcachedlistreference | F splitprefix                      |
| F getinternallistreference       | F splitreference                   |
| F getinternalreference           | F synchronizepage                  |
| F getoutermethod                 | T testrunners                      |
| D handlers                       | F inner                            |
| F identify                       | F special                          |
| F import                         | F special operation                |
| F inject                         | F special operation with arguments |
| F injectcurrentset               | T testspecials                     |
| S innermethod                    | F deltapage                        |
| F integrate                      | F i                                |
| D internals                      | F internal                         |
| F load                           | F page                             |
| F loadpresets                    | F realpage                         |
| F mark                           | F section                          |
| S outermethod                    | F userpage                         |
| F pagefromhash                   | D tobereferred                     |
| D pages                          | D tobesaved                        |
| U prefixsplitter                 | D tracedpages                      |
| D productdata                    | T urls                             |
| T programs                       | T data                             |
| T data                           | F define                           |
| F define                         | F found                            |
| F get                            | F get                              |
| F realpageofpage                 | F untext                           |
| F referenced                     | D usedinternals                    |
| U referencesplitter              | D usedviews                        |
| D referred                       | F valid                            |
| F referredpage                   | T registers                        |
| F registerfinalizer              | F analyze                          |
| F registerinitializer            | D collected                        |
| F registerpage                   | F compare                          |
| F reset                          | F define                           |
| D runners                        | F enhance                          |
| F set                            | F extend                           |
| F setandgetattribute             | F filter                           |
| F setinternalreference           | F filtercollected                  |
| F setlinkmethod                  | F finalize                         |
| F setnextinternal                | F findinternal                     |
| F setnextorder                   | F flush                            |

|                       |                   |
|-----------------------|-------------------|
| F get                 | F set             |
| F integrate           | F setblock        |
| F prepare             | F setchecker      |
| F process             | F setentry        |
| F setmethod           | F setinitialblock |
| F sort                | F setlevel        |
| F store               | F setnumber       |
| D tobesaved           | F showstructure   |
| F tweak               | F structuredata   |
| F unique              | F title           |
| F use                 | D tobesaved       |
| F userdata            | F typesetnumber   |
| T sections            | F userdata        |
| F autodepth           | B verbose         |
| F cct                 | T sets            |
| D collected           | F define          |
| F current             | F get             |
| F currentblock        | F getall          |
| F currentid           | D setlist         |
| F currentlevel        | T specials        |
| F currentsectionindex | D collected       |
| F depthnumber         | F retrieve        |
| F finddata            | F store           |
| F findnumber          | D tobesaved       |
| F fullnumber          | T synonyms        |
| F getcurrentlevel     | F analyzed        |
| F getlevel            | D collected       |
| F getnumber           | F compare         |
| F internalreference   | F define          |
| D levelmap            | F enhance         |
| D levels              | F filter          |
| F matchingtilldepth   | F finalize        |
| F numberatdepth       | F firstuserpage   |
| F numbers             | F flush           |
| F popblock            | F isshown         |
| F prefixedconverted   | F isused          |
| F pushblock           | F meaning         |
| F register            | F pages           |
| D registered          | F prepare         |
| F reportstructure     | F process         |
| F save                | F register        |
| T sectionblockdata    | F registershown   |
| T bodypart            | F registerused    |
| S bookmark            | F reset           |

|                     |                       |
|---------------------|-----------------------|
| F resetall          | F paragraph           |
| F resetlist         | F publication         |
| F resetshown        | F reference           |
| F resetused         | F registerlocation    |
| F sort              | F registerpages       |
| F synonym           | F registerseparator   |
| D tobesaved         | F section             |
| F userpages         | F sorting             |
| T tags              | F subsentencesymbol   |
| F analyze           | F synonym             |
| T backend           | F tablecell           |
| T checks            | F tabulate            |
| F marginanchor      | F tabulatecell        |
| F margintext        | T finalizers          |
| F math              | F descriptions        |
| F mrow              | T fixes               |
| F mtable            | F linenumber          |
| T destinationhash   | F fontfaced           |
| T extras            | T listdata            |
| F adddestination    | T referencehash       |
| F addimplicit       | F setattribute        |
| F addinternal       | F tofontface          |
| F addreference      | T usedimages          |
| F combination       | T image               |
| F combinationpair   | T mpgraphic           |
| F delimitedsymbol   | T usedstyles          |
| F description       | T construct           |
| F descriptionsymbol | T highlight           |
| F document          | F checknesting        |
| F float             | F current             |
| F formulacontent    | F elementtag          |
| F image             | F enabled             |
| F item              | F exportbox           |
| F itemgroup         | F finishexport        |
| F link              | F getdescriptionindex |
| F listitem          | F getextradata        |
| F mmultiscripts     | F getid               |
| F mover             | F getitemgroup        |
| F mpgraphic         | F getmetadata         |
| F msub              | F getoption           |
| F msubsup           | F getsorting          |
| F msup              | F getsynonym          |
| F munder            | F gettablecell        |
| F munderover        | F gettabulatecell     |

|                              |                           |
|------------------------------|---------------------------|
| F gettagreferencedescription | F setformulacontent       |
| F handler                    | F sethighlight            |
| T ignored                    | F setitem                 |
| F initializeexport           | F setitemgroup            |
| D labels                     | F setmpgraphic            |
| F last                       | F setnotation             |
| F lastinchain                | F setnotationsymbol       |
| F localexport                | F setparagraph            |
| F locatedtag                 | F setproperty             |
| T modes                      | F setpublication          |
| S BlockQuote                 | F setregister             |
| S FENote                     | F setsorting              |
| S H1                         | F setsynonym              |
| S H2                         | F settablecell            |
| S H3                         | F settabulatecell         |
| S H4                         | F settagdelimitedsymbol   |
| S H5                         | F settagsubsentencesymbol |
| S H6                         | F setupexport             |
| S H7                         | F setuserproperties       |
| S H8                         | D specifications          |
| S H9                         | F start                   |
| S Lbl                        | F stop                    |
| S NonStruct                  | F strip                   |
| S P                          | D taglist                 |
| S Part                       | T unsupported             |
| S Sect                       | B Annot                   |
| D overloads                  | B Art                     |
| T patterns                   | B BibEntry                |
| U splitter                   | B Caption                 |
| F pop                        | B Document                |
| D properties                 | B DocumentFragment        |
| F push                       | B Em                      |
| F registerextradata          | B Form                    |
| F registermetadata           | B H                       |
| F restart                    | B Index                   |
| F setaspect                  | B Link                    |
| F setattributehash           | B Note                    |
| F setcodepoint               | B Quote                   |
| F setcombination             | B Reference               |
| F setcombinationpair         | B Strong                  |
| F setconstruct               | B TOC                     |
| F setdescriptionindex        | B TOCI                    |
| F setfigure                  | B Title                   |
| F setfloat                   | T usewithcare             |

|                    |                     |
|--------------------|---------------------|
| T where            | N step              |
| S Art              | S formatname        |
| S Artifact         | N functionsize      |
| S Aside            | T halferrorlinesize |
| S BibEntry         | N size              |
| S BlockQuote       | T hashsize          |
| S Code             | N size              |
| S DocumentFragment | N step              |
| S Em               | F init              |
| S FENote           | T inputsize         |
| S H1               | N size              |
| S H2               | N step              |
| S H3               | T insertsize        |
| S H4               | N size              |
| S H5               | N step              |
| S H6               | B kpse_init         |
| S H7               | T languagesize      |
| S H8               | N size              |
| S H9               | N step              |
| S Index            | T marksize          |
| S Note             | N size              |
| S Private          | N step              |
| S Quote            | T nestsize          |
| S Reference        | N size              |
| S Strong           | N step              |
| S Sub              | T nodesize          |
| S TOC              | N size              |
| S TOCI             | N step              |
| S Title            | T parametersize     |
| D texconditionals  | N size              |
| T texconfig        | N step              |
| T buffersize       | T poolsize          |
| N size             | N size              |
| N step             | N step              |
| T errorlinesize    | N propertiessize    |
| N size             | T savesize          |
| T expandsize       | N size              |
| N size             | N step              |
| T filesize         | S shell_escape      |
| N size             | T stringsize        |
| N step             | N size              |
| S firstline        | N step              |
| T fontsize         | T tokensize         |
| N size             | N size              |

|                  |                  |
|------------------|------------------|
| N step           | N whitespace     |
| D texconstants   | D cache          |
| D texifs         | D commands       |
| D texisdefined   | F compile        |
| D texmodes       | F constant       |
| D texsystemmodes | T converters     |
| T thirddata      | S toboolean      |
| F toboolean      | S todimen        |
| F todecimal      | S toglue         |
| T tokens         | S tonumber       |
| T accessors      | S toString       |
| F active         | F create         |
| F cmd            | F defined        |
| F cmdchrsc       | F flags          |
| F cmdname        | F getinteger     |
| F command        | T getters        |
| F csname         | F box            |
| F expandable     | F count          |
| F frozen         | F cstoken        |
| F index          | F dimen          |
| F name           | F glue           |
| F protected      | F macro          |
| F range          | F meaning        |
| F astable        | F skip           |
| T bits           | F token          |
| N active         | F gobble         |
| N alignment      | F isactivestring |
| N begingroup     | F isdefined      |
| N character      | F istoken        |
| N close          | F new            |
| N comment        | F pickup         |
| N endgroup       | F popmacro       |
| N endoffline     | T presets        |
| N escape         | T 1 argument     |
| N ignore         | T 1 integer      |
| N invalid        | T 1 optional     |
| N letter         | T 1 string       |
| N mathshift      | T 2 arguments    |
| N open           | T 2 integers     |
| N other          | T 2 optionals    |
| N parameter      | T 2 strings      |
| N space          | T 3 arguments    |
| N subscript      | T 3 integers     |
| N superscript    | T 3 optionals    |

|                     |                |
|---------------------|----------------|
| T 3 strings         | F letters      |
| T 4 arguments       | F list         |
| T 4 integers        | F lua          |
| T 4 optionals       | F luacardinal  |
| T 4 strings         | F luainteger   |
| T 5 strings         | F luanumber    |
| T 6 strings         | F lxmLid       |
| T 7 strings         | F next         |
| T 8 strings         | F nextchar     |
| F pushmacro         | F nextexpanded |
| T scanners          | F number       |
| F argument          | F optional     |
| F argumentasis      | F peek         |
| F array             | F peekchar     |
| F boolean           | F peekexpanded |
| F box               | F posit        |
| F bracketed         | F real         |
| F bracketedasis     | F scanclose    |
| F cardinal          | F scanopen     |
| F char              | F skip         |
| F cmdchr            | F skipexpanded |
| F cmdchrexploded    | F string       |
| F code              | F table        |
| F conditional       | F token        |
| F count             | F tokencode    |
| F csname            | F tokenlist    |
| F csnameunchecked   | F tokens       |
| F delimited         | F tokenstring  |
| F detokened         | F toks         |
| F dimen             | F value        |
| F dimension         | F vbox         |
| F dimensionargument | F verbatim     |
| F float             | F vtop         |
| F glue              | F whd          |
| F gluespec          | F word         |
| F gluevalues        | F setinteger   |
| F hash              | T setters      |
| F hbox              | F box          |
| F integer           | F char         |
| F integerargument   | F count        |
| F ischar            | F dimen        |
| F key               | F glue         |
| F keyword           | F lua          |
| F keywordcs         | F macro        |

|                         |                   |
|-------------------------|-------------------|
| F skip                  | F scantokenstring |
| T shortcuts             | F scantoks        |
| N close                 | F scanvbox        |
| F inspect               | F scanverbatim    |
| N open                  | F scanvtop        |
| F report                | F scanword        |
| F scanargument          | F toboboolen      |
| F scanargumentasis      | F todimen         |
| F scanarray             | F tonumber        |
| F scanboolean           | F tostring        |
| F scanbox               | D values          |
| F scanbracketed         | F tonumber        |
| F scanbracketedasis     | F tostring        |
| F scancardinal          | T tracers         |
| F scanclose             | F printerror      |
| F scancode              | F printwarning    |
| F scanconditional       | F showlines       |
| F scancsname            | T trackers        |
| F scancsnameunchecked   | D data            |
| F scandelimited         | F default         |
| F scandetokened         | F disable         |
| F scandimen             | T done            |
| F scandimension         | F dumphashtofile  |
| F scandimensionargument | F enable          |
| F scanfloat             | F list            |
| F scanglue              | S name            |
| F scangluespec          | F register        |
| F scangluevalues        | F report          |
| F scanhash              | F reset           |
| F scanhbox              | F savehash        |
| F scaninteger           | F show            |
| F scanintegerargument   | F value           |
| F scankeyword           | F values          |
| F scankeywordcs         | F type            |
| F scanletters           | T typesetters     |
| F scanlist              | T alignments      |
| F scanlua               | F handler         |
| F scannumber            | F set             |
| F scanopen              | T breakpoints     |
| F scanoptional          | F define          |
| F scanposit             | F handler         |
| F scanstring            | D mapping         |
| F scantable             | T methods         |
| F scantokenlist         | T numbers         |

|                       |                      |
|-----------------------|----------------------|
| F set                 | F tomode             |
| F setreplacement      | T firstlines         |
| T cases               | T actions            |
| T actions             | F default            |
| F handler             | F line               |
| F register            | F word               |
| F set                 | F handler            |
| T characteralign      | F set                |
| F handler             | T fontkerns          |
| F resetcharacteralign | F handler            |
| F setcharacteralign   | T initials           |
| T characters          | T actions            |
| F handler             | F default            |
| T methods             | F handler            |
| F replacensbp         | F set                |
| F replacenspaces      | T injectors          |
| T checkers            | F check              |
| F handler             | T list               |
| F reset               | F mark               |
| F set                 | F reset              |
| T cleaners            | F set                |
| F handler             | F show               |
| F set                 | T italics            |
| T compare             | F enablemath         |
| F handler             | F enabletext         |
| F reset               | F handler            |
| F set                 | T kerns              |
| F setpair             | D factors            |
| F setup               | F handler            |
| T corrections         | F keepligature       |
| F handler             | D mapping            |
| T digits              | F set                |
| T actions             | T localboxes         |
| F handler             | F handler            |
| F set                 | T manipulators       |
| T directions          | F apply              |
| F getfences           | F applyspecification |
| F getglobal           | T methods            |
| F getmethod           | F Word               |
| F handler             | F Words              |
| T handlers            | F abbreviatedjournal |
| F installhandler      | F expandedjournal    |
| F set                 | F lowercase          |
| F setcolor            | F stripperperiod     |

|                      |                            |
|----------------------|----------------------------|
| F uppercase          | N number                   |
| T patterns           | F reset                    |
| U list               | F set                      |
| U pair               | F setup                    |
| F splitspecification | T stacking                 |
| T margins            | F getindex                 |
| F finalhandler       | F getselection             |
| F globalhandler      | F handler                  |
| F localhandler       | T swapping                 |
| F save               | F handler                  |
| F marksuspects       | T synchronize              |
| T paragraphs         | F handler                  |
| F addanchortoline    | T tighten                  |
| F addtoline          | F handler                  |
| F calculatedelta     | T wrappers                 |
| F checkline          | T xtables                  |
| F moveinline         | F cleanup                  |
| T periodkerns        | F construct                |
| D factors            | F create                   |
| F handler            | F finish_row               |
| D mapping            | F flush                    |
| F set                | F initialize_construct     |
| T processors         | F initialize_reflow_height |
| F apply              | F initialize_reflow_width  |
| F register           | F next_row                 |
| F reset              | F reflow_height            |
| F split              | F reflow_width             |
| F startapply         | F set_construct            |
| F stopapply          | F set_reflow_height        |
| F stripped           | F set_reflow_width         |
| F tostring           | F unpack                   |
| T rubies             | T updaters                 |
| F attach             | F apply                    |
| F check              | F register                 |
| F showinvisibles     | T url                      |
| F showsuspects       | F addscheme                |
| T spacings           | F barepath                 |
| F define             | F construct                |
| F handler            | F decode                   |
| D mapping            | F encode                   |
| T numbers            | F escape                   |
| T frenchpunctuation  | F filename                 |
| T characters         | F hashed                   |
| S name               | F hasscheme                |

|                      |                      |
|----------------------|----------------------|
| F query              | F utf8_to_utf8_t     |
| F split              | F values             |
| F toquery            | F xstring            |
| F unescape           | T utilities          |
| F unescapeget        | T debugger           |
| T userdata           | F disable            |
| T utf                | F enable             |
| F byte               | F savestats          |
| F bytepairs          | F showstats          |
| F char               | F showtraceback      |
| F characters         | T formatters         |
| F chrln              | F formatcolumns      |
| F count              | F list               |
| F filetype           | F stripzeros         |
| F is_valid           | T ghostscript        |
| F len                | F convert            |
| F length             | F statistics         |
| F lower              | T graphicmagick      |
| F remapper           | F convert            |
| F replacer           | F statistics         |
| F split              | T lua                |
| F splitlines         | B alwaysstripcode    |
| F sub                | F checkmemory        |
| F substituter        | F compile            |
| F tocodes            | F loadedluacode      |
| F toeight            | F loadstring         |
| F toentities         | F loadstripped       |
| F tostring           | N nofstrippedbytes   |
| F totable            | N nofstrippedchunks  |
| F upper              | F registerfinalizer  |
| F ustring            | B stripcode          |
| F utf16_to_utf8_be   | T strippedchunks     |
| F utf16_to_utf8_be_t | F strippedloadstring |
| F utf16_to_utf8_le   | T suffixes           |
| F utf16_to_utf8_le_t | S lmt                |
| F utf16_to_utf8_t    | S lua                |
| F utf32_to_utf8_be   | S luc                |
| F utf32_to_utf8_be_t | S lui                |
| F utf32_to_utf8_le   | S luj                |
| F utf32_to_utf8_le_t | S luv                |
| F utf32_to_utf8_t    | S tma                |
| F utf8_to_utf16      | S tmc                |
| F utf8_to_utf16_be   | S tua                |
| F utf8_to_utf16_le   | S tuc                |

|   |                                 |
|---|---------------------------------|
| T packers                                   | U settings_to_hash_c            |
| F hashed                                    | U settings_to_hash_d            |
| F new                                       | U unittotex                     |
| F pack                                      | F process_stripped_settings     |
| F simplehashed                              | F rfc4180splitter               |
| F strip                                     | F runtime                       |
| F unpack                                    | F settings_to_array             |
| N version                                   | F settings_to_array_obey_fences |
| T parsers                                   | F settings_to_array_with_repeat |
| F add_settings_to_array                     | F settings_to_hash              |
| F arguments_to_table                        | F settings_to_hash_colon_too    |
| F array_to_string                           | F settings_to_hash_strict       |
| F csvsplitter                               | F settings_to_hash_tolerant     |
| F getparameters                             | F settings_to_numbers           |
| F groupedsplitat                            | F settings_to_set               |
| F hash_to_string                            | F simple_hash_to_string         |
| T hashes                                    | F splitmethod                   |
| T settings_to_list                          | F splitthousands                |
| T tablet                                    | F stepper                       |
| T settings_to_set                           | F stripped_settings_to_array    |
| T min,max,fit,broad,auto                    | F totime                        |
| B auto                                      | F unittotex                     |
| B broad                                     | F unittotxml                    |
| B fit                                       | T randomizer                    |
| B max                                       | F get                           |
| B min                                       | F getnumber                     |
| T text,hidden,paper,page,leftpage,rightpage | F getrepeatable                 |
| B hidden                                    | F getrepeatableseed             |
| B leftpage                                  | F getseed                       |
| B page                                      | F newrepeatable                 |
| B paper                                     | F popseed                       |
| B rightpage                                 | F pushseed                      |
| B text                                      | F repeatable                    |
| F iterator                                  | F reuseseed                     |
| F keq_to_hash                               | F setseed                       |
| F listitem                                  | F setseedi                      |
| F make_settings_to_hash_pattern             | T randomizers                   |
| F mergehashes                               | F poisson                       |
| F options_to_array                          | T sequencers                    |
| F options_to_hash                           | F appendaction                  |
| T patterns                                  | F appendgroup                   |
| U settings_to_array                         | F compile                       |
| U settings_to_hash_a                        | F disableaction                 |
| U settings_to_hash_b                        | F disablegroup                  |

|                  |                     |
|------------------|---------------------|
| F enableaction   | T streams           |
| F enablegroup    | F close             |
| D functions      | F getposition       |
| F localize       | F getsize           |
| F new            | F getstring         |
| F nodeprocessor  | F look              |
| F prependaction  | F open              |
| F prependgroup   | F openstring        |
| F removeaction   | F read2dot14        |
| F replaceaction  | F readbyte          |
| F setkind        | F readbytes         |
| F toString       | F readbytetable     |
| T setters        | F readcardinal      |
| F disable        | F readcardinal1     |
| F enable         | F readcardinal11e   |
| F initialize     | F readcardinal2     |
| F list           | F readcardinal2le   |
| F new            | F readcardinal3     |
| F register       | F readcardinal3le   |
| F report         | F readcardinal4     |
| F reset          | F readcardinal4le   |
| F show           | F readcardinaltable |
| T signals        | F readchar          |
| S configuration  | F readcline         |
| F initialize     | F readcstring       |
| F loadstate      | F readdouble        |
| F report         | F readdoublele      |
| F savestate      | F readfixed2        |
| F serialclose    | F readfixed4        |
| F serialfast     | F readfloat         |
| F serialopen     | F readfloatle       |
| S serialprefix   | F readfloatle12     |
| F serialsend     | F readfloatle6      |
| F serialwrite    | F readinteger       |
| N version        | F readinteger1      |
| T stacker        | F readinteger11e    |
| F new            | F readinteger2      |
| T storage        | F readinteger2le    |
| F allocate       | F readinteger3      |
| F checked        | F readinteger3le    |
| F mark           | F readinteger4      |
| F marked         | F readinteger4le    |
| F setinitializer | F readintegertable  |
| F sparse         | F readsignedbyte    |

|                       |                    |
|-----------------------|--------------------|
| F readstring          | F replacevalue     |
| F setposition         | T tar              |
| F size                | T archives         |
| F skip                | F closearchive     |
| F skipbytes           | T files            |
| F skiplong            | F fetch            |
| F skipshort           | F hash             |
| F tocardinal1         | F list             |
| F tocardinal1le       | F pack             |
| F tocardinal2         | F unpack           |
| F tocardinal2le       | F openarchive      |
| F tocardinal3         | T registeredfiles  |
| F tocardinal3le       | T streams          |
| F tocardinal4         | F fetch            |
| F tocardinal4le       | F hash             |
| T strings             | F list             |
| F collapse            | F pack             |
| F collapseCrLf        | F unpack           |
| T formatters          | T strings          |
| F add                 | F fetch            |
| F new                 | F hash             |
| F newcollector        | F list             |
| F newrepeater         | F pack             |
| T striplinepatterns   | F unpack           |
| U collapse            | T templates        |
| U collapse all        | F load             |
| U prune               | F replace          |
| U prune and collapse  | F replacer         |
| U prune and no empty  | F resolve          |
| U prune and to space  | T zipfiles         |
| U retain              | F close            |
| U retain and collapse | F found            |
| U retain and no empty | F hash             |
| F striplines          | F list             |
| F tabtospace          | F open             |
| T tables              | F unzip            |
| F accesstable         | F unzipdir         |
| F definedtable        | F zipdir           |
| F definetable         | T visualizers      |
| F encapsulate         | D escapepatterns   |
| F insertaftervalue    | F getspecification |
| F insertbeforevalue   | F getvisualizer    |
| F migratetable        | F load             |
| F removevalue         | F makenested       |

|                         |                      |
|-------------------------|----------------------|
| F makepattern           | F checkedempty       |
| F newgrammar            | F checkerror         |
| F newhandler            | F checknamespace     |
| F parsedxml             | F checkns            |
| F pattern               | F cleansed           |
| F register              | F collect            |
| F registerescapecommand | F collect_elements   |
| F registerescapepline   | F collect_tags       |
| F registerescapepattern | F collect_texts      |
| S signal                | F collected          |
| U signalpattern         | F collecttexts       |
| D specifications        | F compactelement     |
| F visualize             | F content            |
| F visualizebuffer       | F convert            |
| F visualizefile         | F copy               |
| F visualizestring       | F count              |
| F write                 | F cprint             |
| F writeargument         | T css                |
| F writedefault          | F applyselector      |
| F writeemptyline        | F colorspecification |
| F writenewline          | F dimension          |
| F writespace            | F family             |
| F warn                  | F fontspecification  |
| T xml                   | F mappedstylevalue   |
| F addentitiesdoctype    | F padding            |
| F addspecialcode        | F size               |
| F after                 | F style              |
| F all                   | F stylevalue         |
| F applylpath            | F todimension        |
| F applyselector         | F variant            |
| F assign                | F weight             |
| F attribute             | T defaulthandlers    |
| F badinclusions         | D file               |
| F before                | D parsedxml          |
| F body                  | D string             |
| T builtinentities       | D tex                |
| B amp                   | D texline            |
| B apos                  | D texspace           |
| B gt                    | D verbose            |
| B lt                    | S defaultprotocol    |
| B quot                  | F delete             |
| F cdata                 | F delete_element     |
| F cdatatotext           | F despecialized      |
| F checkbom              | F each               |

|                  |                  |
|------------------|------------------|
| F each_element   | F ctxtext        |
| F elements       | F default        |
| F elementtocdata | F depth          |
| F empty          | F first          |
| D entities       | F function       |
| F erase          | F index          |
| F errorhandler   | F last           |
| F escaped        | F lettered       |
| F expand         | F lower          |
| T expressions    | F lowerall       |
| F attribute      | F match          |
| F boolean        | F name           |
| F child          | F param          |
| F contains       | F parameter      |
| F count          | F position       |
| F error          | F reverse        |
| F find           | F stripped       |
| F hasclass       | F tag            |
| F idstring       | F tags           |
| F lower          | F text           |
| F name           | F upper          |
| F number         | F upperall       |
| F oneof          | F url            |
| F print          | F xml            |
| F quit           | T xml            |
| F tag            | F all            |
| F text           | F att            |
| F undefined      | F attribute      |
| F upper          | F attributes     |
| F fillin         | F cdata          |
| F filter         | F chainattribute |
| T finalizers     | F count          |
| F paragraphs     | F default        |
| T tex            | F elements       |
| F all            | F empty          |
| F attribute      | F first          |
| F chainattribute | F function       |
| F chainpath      | F index          |
| F collapsed      | F last           |
| F command        | F lowerall       |
| F concat         | F match          |
| F concatrange    | F name           |
| F context        | F position       |
| F count          | F reverse        |

|                         |                         |
|-------------------------|-------------------------|
| F table                 | F lpath                 |
| F tag                   | F lpathcached           |
| F tags                  | F lpathcalls            |
| F text                  | F lshow                 |
| F texts                 | F makestandalone        |
| F tomacro               | F match                 |
| F upperall              | T mml                   |
| F url                   | F stripped              |
| F first                 | F verbose               |
| F found                 | F name                  |
| T functions             | F newhandlers           |
| F classes               | F nodesettostring       |
| F hasclass              | T obsolete              |
| F getbuffer             | F collect_elements      |
| F gethandlers           | F collect_texts         |
| F gethandlersfunction   | F delete_element        |
| T helpers               | F each_element          |
| F recursetext           | F inject_element        |
| F include               | F inject_element_after  |
| F inclusion             | F inject_element_before |
| F inclusions            | F insert_element_after  |
| F index                 | F insert_element_before |
| F inheritattributes     | F process_attributes    |
| F inheritedconvert      | F process_elements      |
| F inject                | F remap_name            |
| F inject_element        | F remap_namespace       |
| F inject_element_after  | F remap_tag             |
| F inject_element_before | F replace_element       |
| F injectafter           | F strip_whitespace      |
| F injectbefore          | F originalload          |
| F insert                | F package               |
| F insert_element        | F parent                |
| F insert_element_after  | U parsedentitylpeg      |
| F insert_element_before | T pihandlers            |
| F insertafter           | F injector              |
| F insertbefore          | F tex                   |
| F insertcdata           | T placeholders          |
| F insertcomment         | F unknown_any_entity    |
| F inspect               | F unknown_dec_entity    |
| F is_valid              | F unknown_hex_entity    |
| F kind                  | F popmatch              |
| F last                  | F position              |
| F lastmatch             | D privatecodes          |
| F load                  | F privatetoken          |

|                       |                       |
|-----------------------|-----------------------|
| F process             | F table               |
| F process_attributes  | F text                |
| F process_elements    | F textonly            |
| F processattributes   | F texttocdata         |
| T profiled            | F tocdata             |
| F pure                | F toelement           |
| F pushmatch           | F tostring            |
| F raw                 | F totable             |
| F registerentity      | F toxml               |
| F registerns          | F tprint              |
| F reindex             | F traverse            |
| F remap_name          | F unescaped           |
| F remap_namespace     | U unescapedentitylpeg |
| F remap_tag           | F unprivatized        |
| F remapname           | F unspecialized       |
| F remapnamespace      | F wipe                |
| F remaptag            | F withelement         |
| F rename              | F withelements        |
| F renamespace         | F wrap                |
| U reparsedentitylpeg  | T xmlns               |
| F replace             | F xpcall              |
| F replace_element     | T zip                 |
| F resetinjectors      | T archives            |
| F resolvns            | F closearchive        |
| F root                | F openarchive         |
| F save                | T registeredfiles     |
| F selection           | F inspect             |
| F separate            | F ipairs              |
| F serialize           | F load                |
| F serializetotext     | D loaders             |
| F setcdata            | F loadfile            |
| F setcomment          | F loadstring          |
| F sethandlersfunction | F next                |
| F setinjectors        | F optionalrequire     |
| F setproperty         | F pairs               |
| F settings            | F pcall               |
| D specialcodes        | F print               |
| T specialhandler      | F rawequal            |
| F sprint              | F rawget              |
| F string              | F rawlen              |
| F strip               | F rawset              |
| F strip_whitespace    | F require             |
| F stripelement        | F select              |
| F stripleadingspaces  | F setinspector        |

F setmathparameters  
F setmetatable  
D texconditionals  
D texconstants  
D texifs  
D texisdefined  
D texmodes  
D texsystemmodes  
F toboolean  
F todecimal  
F tonumber  
F tostring  
F type  
F unpack  
F warn  
F xpcall

## globals

table

N CONTEXTLMTXMODE  
N LUAFORMAT  
N LUAMAJORVERSION  
N LUAMINORVERSION  
S LUAEXENGINE  
N LUAEXFORMATID  
N LUAEXFUNCTIONALITY  
S LUAEXVERBOSE  
N LUAEXVERSION  
N LUAVERSION  
F SAVEDREQUIRE  
F assert  
F characterkern  
F collectgarbage  
F dimen  
F dofile  
F error  
F getmetatable  
F inspect  
F ipairs  
F load  
D loaders  
F loadfile  
F loadstring  
F next  
F optionalrequire  
F pairs

F pcall  
F print  
F rawequal  
F rawget  
F rawlen  
F rawset  
F require  
F select  
F setinspector  
F setmathparameters  
F setmetatable  
D texconditionals  
D texconstants  
D texifs  
D texisdefined  
D texmodes  
D texsystemmodes  
F toboolean  
F todecimal  
F tonumber  
F tostring  
F type  
F unpack  
F warn  
F xpcall

## graphics

table

F bpsize  
F identify  
F registerpdfcompactor  
F registerpdffont

## gzip

table

F compress  
F compressed  
F decompress  
F load  
F save  
F suffix

## helper

table

F getprofile  
F mathnested  
F mathprocess  
F mathstep  
F snapindeed  
F snaplist

|                        |          |                     |       |
|------------------------|----------|---------------------|-------|
| F traversecharmethod   |          | F interfacedcommand |       |
| F traverseglyphmethod  |          | F knownscanner      |       |
| F traversehorizontal   |          | F message           |       |
| F traversevertical     |          | F nameofscanner     |       |
| <b>images</b>          | table    | F registernamespace |       |
| F check                |          | F registerscanner   |       |
| F checksize            |          | D scanners          |       |
| F copy                 |          | F setconstant       |       |
| F create               |          | F setcount          |       |
| F embed                |          | F setdimen          |       |
| F embedfromstore       |          | F setelement        |       |
| F fetchdata            |          | F setformat         |       |
| F print                |          | F setmacro          |       |
| F resetdata            |          | F setmessage        |       |
| F resetstore           |          | F setmessages       |       |
| F scan                 |          | F settranslation    |       |
| F serialize            |          | D setupstrings      |       |
| F storedata            |          | F setvariable       |       |
| F totable              |          | F showmessage       |       |
| F wrap                 |          | D storedscanners    |       |
| <b>inspect</b>         | function | F tolist            |       |
| <b>interactions</b>    | table    | D translations      |       |
| D attachments          |          | D usednamespaces    |       |
| D linkedlists          |          | D variables         |       |
| D renderings           |          | F writestatus       |       |
| <b>interfaces</b>      | table    | <b>io</b>           | table |
| D cachedsetups         |          | F ask               |       |
| F cachesetup           |          | F bytes             |       |
| F checkedspecification |          | F characters        |       |
| D complete             |          | F close             |       |
| D constants            |          | F copydata          |       |
| D corenamespaces       |          | F exists            |       |
| S currentinterface     |          | S fileseparator     |       |
| S currentresponse      |          | F flush             |       |
| F definecommand        |          | F gobble            |       |
| F defined              |          | F input             |       |
| F doifelsemessage      |          | F lines             |       |
| D elements             |          | F loadchunk         |       |
| D formats              |          | F loaddata          |       |
| F getmessage           |          | F loadlines         |       |
| F getnamespace         |          | F newreader         |       |
| F getsetupstring       |          | F noflines          |       |
| D hashedsetups         |          | F open              |       |
| F implement            |          | F output            |       |

S pathseparator  
F popen  
F read  
F readall  
F readnumber  
F readstring  
F savedata  
F size  
U stderr  
U stdin  
U stdout  
F tmpfile  
F type  
F write

**ipairs** function  
**job** table

F comment  
F disablesave  
F getrandomseed  
F initialize  
F load  
F loadother  
B pack  
N packversion  
F register  
F save  
N version

**kpse** table  
**language** table

F clean  
F clearhyphenation  
F clearpatterns  
F current  
F gethjcode  
F has\_language  
F hyphenate  
F hyphenation  
F hyphenationmin  
F id  
F new  
F patterns  
F postexhyphenchar  
F posthyphenchar  
F preexhyphenchar

F prehyphenchar  
F sethjcode  
F setwordhandler

**Languages** table

F addgoodiesdata  
F addgoodiesfile  
F associate  
D associated  
F association  
D counters  
F current  
D data  
D decimals  
F define  
F explicitlyphen  
F exportlanguage  
F flatten  
F getdata  
F getmetadata  
F getnumber  
F goodiefiles  
F hyphenate  
F installed  
F installhandler  
F loadable  
F loadwords  
F nofflattened  
D numbers  
F pdflanguage  
F postexhyphenchar  
F posthyphenchar  
F preexhyphenchar  
F prehyphenchar  
D registered  
F serializediscretionary  
F setexceptions  
F setgoodieshandler  
F setoptions  
F setpatterns  
F setsynonym  
F setwordhandler  
F showdiscretionaries  
F strippedgoodiewords  
F tolang

F unload  
N version  
F visualizediscretionaries

**layouts** table

F getcanvas  
F getpagedimensions  
F setupcanvas

**lfs** table

F attributes  
F chdir  
F currentdir  
F dir  
F isdir  
F isfile  
F isfound  
F isreadabledir  
F isreadablefile  
F iswriteabledir  
F iswriteablefile  
F link  
F mkdir  
F makedirs  
F modification  
F readlink  
F rmdir  
F setexecutable  
F symlink  
F symlinktarget  
F touch  
F walkdir

**libraries** table

D basiclua  
D basictex  
D builtin  
D extralua  
D extratex  
D functions  
D globals  
D obsolete  
D optional

**lmx** table

F color  
F convert  
F convertfile

F convertstring  
F einject  
F eprint  
F escape  
F finalized  
F finject  
F fprint  
F get  
F getvariables  
F htmfile  
F include  
F initialize  
F inject  
F lmxfile  
F loadedfile  
F make  
F new  
F popupfile  
F print  
F pv  
F report  
F reset  
F result  
F set  
F show  
F stripcss  
F tv  
F type  
F urlescape  
F variable

**load** function  
**loaders** data table  
**loadfile** function  
**loadstring** function  
**logs** table

F application  
F categories  
F direct  
F disable  
F enable  
F finalactions  
F flush  
F loggingerrors  
F messenger

F new  
F newline  
F poplogfile  
F poptarget  
F pushlogfile  
F pushtarget  
F registerfinalactions  
F report  
F reporter  
F resetlogfile  
F setformats  
F setformatters  
F setlogfile  
F setmessenger  
F setprocessor  
F settarget  
F settimedlog  
F settranslations  
F show  
F start\_page\_number  
F start\_run  
F starterrorlogging  
F startfilelogging  
F status  
F stop\_page\_number  
F stoperrorlogging  
F stopfilelogging  
F subdirect  
F subreport  
F system  
F texerrormessage  
F writer

## **lpdf** table

F action  
F adddocumentcolorspace  
F adddocumenttextgstate  
F adddocumentpattern  
F adddocumentshade  
F addtocatalog  
F addtoinfo  
F addtonames  
F addtopageattributes  
F addtopageresources  
F addtopagesattributes

F addxmpinfo  
F annotationspecification  
F array  
F attachmentsymbols  
F boolean  
F border  
F checkedkey  
F checkedresources  
F checkedvalue  
F circularshade  
F close  
F cmykcode  
F collectedresources  
F color  
F colorspace  
D colorspaceconstants  
F colorspec  
F colorvalue  
F colorvalues  
F commentsymbols  
F compressdata  
F compresslevel  
F constant  
F copyarray  
F copyboolean  
F copyconstant  
F copydictionary  
F copyfloat  
F copyinteger  
F copynumber  
F copystring  
F copyunicode  
F deferredobject  
F delayedobject  
F destinationspecification  
F dictionary  
F docstring  
F escaped  
F finalizeddocument  
F finalizepage  
F finalizesignature  
F finishtransparencycode  
F flushfonts  
F flushgroup

|                         |                             |
|-------------------------|-----------------------------|
| F flushobject           | F objectcompresslevel       |
| F flushstreamfileobject | F pagereference             |
| F flushstreamobject     | F patternstream             |
| D formats               | F pdfcolor                  |
| F frombytes             | F pdftimestamp              |
| F fromeight             | F preparesignature          |
| F frompdfdoc            | F print                     |
| F fromsixteen           | F procset                   |
| F getcatalog            | B protectresources          |
| F getcompression        | F quads                     |
| F getfontname           | F rectangle                 |
| F getfontobjectnumber   | F reference                 |
| F getformatoption       | F registerannotation        |
| F getinfo               | F registerdestination       |
| F getmatrix             | F registerdocumentfinalizer |
| F getnofpages           | F registerfontmethod        |
| F getpageproperties     | F registerinitializer       |
| F getpagereference      | F registerpagefinalizer     |
| F getpagetags           | F registerpattern           |
| F getpos                | F registersignature         |
| F gettaggingstatus      | F replacexmpinfo            |
| F gettrailerid          | F reserveobject             |
| F getversion            | F rgbcode                   |
| F getxformname          | F rotationcm                |
| F graycode              | F setcompression            |
| F hasmatrix             | F setencryption             |
| F immediateobject       | F setpageorder              |
| F includeimage          | F setpagestate              |
| F initialize            | F setpagetag                |
| F injectxmpinfo         | F setutfstringmode          |
| F insertxmpinfo         | F setversion                |
| F lastreferredpage      | F sharedobject              |
| F layerreference        | F shareobject               |
| F limited               | F shareobjectreference      |
| F linearshade           | F splitsixteen              |
| F literal               | F spotcode                  |
| F majorversion          | F stream                    |
| F makenametree          | F string                    |
| F minorversion          | F supportedformats          |
| F nofontregistries      | F tocidset                  |
| F nofpages              | F toeight                   |
| F null                  | F topdfdoc                  |
| F number                | F topermissions             |
| F object                | F tosixteen                 |

F transparency  
F transparencycode  
F transparencyvalue  
F unicode  
D usedfontstreams  
F verbose

## **lpeg** table

F B  
F C  
F Carg  
F Cb  
F Cc  
F Cf  
F Cg  
F Cmt  
F Cp  
F Cs  
F Ct  
F P  
F R  
F S  
F UP  
F UR  
F US  
F V  
F afterprefix  
F anywhere  
F append  
F balancer  
F beforesuffix  
F checkedsplit  
F containsws  
F counter  
F endstripper  
F finder  
F firstofsplit  
F frontstripper  
F instringchecker  
F is\_lpeg  
F keeper  
F locale  
F match  
F oneof  
D patterns

F pcode  
F print  
F ptree  
F replacer  
F secondofsplit  
F setmaxstack  
F setutfcasers  
F split  
F splitat  
F splitter  
F stripper  
F times  
F tsplitat  
F tsplitter  
F type  
F utfR  
F utfchartabletopattern  
F utfreplacer  
S version

## **lua** table

F addnibble  
D bytedata  
F callbytecode  
F comparekeys  
F finalizeinitex  
N firstbytecode  
F get\_functions\_table  
F getallkeys  
F getbytecode  
F getcheckedkeys  
F getcurrenttime  
F getdebuginfo  
F getexitcode  
F getfunctionstable  
F getnibble  
F getnumerickeys  
F getpreciseseconds  
F getpreciseticks  
F getruntime  
F getstacktop  
F getstartupfile  
F getstringkeys  
F getversion  
N lastbytecode

|                           |       |                   |
|---------------------------|-------|-------------------|
| D messages                |       | F checkindex      |
| F newindex                |       | F collected       |
| F newtable                |       | F command         |
| D numbers                 |       | F concat          |
| F protectglobal           |       | F concatrange     |
| F registercode            |       | F content         |
| F registeredcodes         |       | F context         |
| F registerglobal          |       | F convert         |
| F registerinitexfinalizer |       | F count           |
| F registername            |       | F delete          |
| F setbytecode             |       | F depth           |
| F setexitcode             |       | F direct          |
| F setnibble               |       | F displayverbatim |
| S startupfile             |       | F doif            |
| F subnibble               |       | F doifelse        |
| S version                 |       | F doifelseempty   |
| <b>luac</b>               | table | F doifelsestext   |
| F inspect                 |       | F doifempty       |
| F print                   |       | F doifnot         |
| <b>luatex</b>             | table | F doifnotempty    |
| F abort                   |       | F doifnottext     |
| F cleanup                 |       | F doiftext        |
| F cleanuptempfiles        |       | F element         |
| F currentfile             |       | F elements        |
| F currentlevel            |       | D entities        |
| F currenttotal            |       | F fileline        |
| F poprunstate             |       | F filename        |
| F pushrunstate            |       | F filter          |
| F registerdumpactions     |       | F filterlist      |
| F registerpageactions     |       | F first           |
| F registerstartactions    |       | F flush           |
| F registerstopactions     |       | F flushlinewise   |
| F registertempfile        |       | F flushsetups     |
| N starttime               |       | F flushspacewise  |
| F wrapup                  |       | F get_id          |
| <b>lxml</b>               | table | F getid           |
| F addindex                |       | F getindex        |
| F all                     |       | F id              |
| F applyfunction           |       | U idsplitter      |
| F applyselectors          |       | F ifatt           |
| F att                     |       | F ifattempty      |
| F attribute               |       | F include         |
| F badinclusions           |       | F inclusion       |
| F chainattribute          |       | F inclusions      |

|                    |                  |              |
|--------------------|------------------|--------------|
| F index            | F setpar         |              |
| F inlineverbatim   | F setparam       |              |
| F installsetup     | F setparameter   |              |
| F last             | F setsetup       |              |
| F lastatt          | F snippet        |              |
| F lastmatch        | F splitid        |              |
| F lastpar          | F startraw       |              |
| F load             | F startunescaped |              |
| F loadbuffer       | F stopraw        |              |
| F loaddata         | F stopunescaped  |              |
| F main             | F store          |              |
| F match            | F strip          |              |
| F name             | F stripped       |              |
| F namespace        | F tag            |              |
| F nonspace         | F texatt         |              |
| F par              | F text           |              |
| F param            | F tobuffer       |              |
| F parameter        | F tofile         |              |
| F path             | F toparameters   |              |
| F popmatch         | F toverbatim     |              |
| F pos              | F verbatim       |              |
| F position         | F withinindex    |              |
| F pure             | D xmltexhandler  |              |
| F pushmatch        | <b>math</b>      | <b>table</b> |
| F raw              | F abs            |              |
| F rawroot          | F acos           |              |
| F rawtex           | F asin           |              |
| F refatt           | F atan           |              |
| F register         | F atan2          |              |
| F registerentity   | F ceil           |              |
| F removesetup      | F ceiling        |              |
| F replace          | F cos            |              |
| F resetcdata       | F cosd           |              |
| F resetsetups      | F cosh           |              |
| F resolvedentity   | F deg            |              |
| F root             | F div            |              |
| F save             | F even           |              |
| F serialize        | F exp            |              |
| F setaction        | F floor          |              |
| F setatt           | F fmod           |              |
| F setattribute     | F frexp          |              |
| F setcdata         | N huge           |              |
| F setcommandtonone | N initialseed    |              |
| F setcommandtotext | F ldexp          |              |

|                  |                        |
|------------------|------------------------|
| F log            | D extensibles          |
| F log10          | N extrabase            |
| F max            | F fallbackstyleattr    |
| N maxinteger     | F familyname           |
| F min            | F functiontype         |
| N mininteger     | D gaps                 |
| F mod            | F getblobindex         |
| F modf           | F getboth              |
| F odd            | F getdomainname        |
| N pi             | F getextensibledata    |
| F pow            | F getmathblob          |
| F rad            | F getoptionallabel     |
| F random         | F getstyle             |
| F randomseed     | F gettextblob          |
| F round          | F getverboselabel      |
| F setrandomseedi | F horizontalcode       |
| F sin            | F initializeparameters |
| F sind           | F makefont             |
| F sinh           | D mapremap             |
| F sqrt           | F markblobindexdone    |
| F tan            | F overloadparameters   |
| F tand           | F preset               |
| F tanh           | N privatebase          |
| F tointeger      | F registerextensible   |
| F type           | F registersimplematrix |
| F ult            | F registerverboselabel |

## mathematics table

|                          |                     |
|--------------------------|---------------------|
| F addfallbacks           | F renderextensible  |
| F addvariant             | F renderset         |
| D alphabets              | F resetattributes   |
| D alternatives           | F scaleparameters   |
| F beforepassingfonttotex | F setextensibledata |
| F big                    | F setmathsymbol     |
| D boldmap                | D sets              |
| D charactersets          | F setsnapping       |
| F checkaftercopyingfont  | F setvariant        |
| D classes                | F strutcode         |
| D classnames             | D styles            |
| D codes                  | F syncboth          |
| F define                 | F syncname          |
| F dimensions             | F syncstyle         |
| F disablecollecting      | F toengineclass     |
| F enablecollecting       | F toname            |
| F extensiblecode         | F tostyle           |

F tweakaftercopyingfont  
F tweakbeforecopyingfont  
F utfmathaccent  
F utfmathclass  
F utfmathcommand  
F utfmathfiller  
F utfmathstretch  
F variantcode  
F variantcount  
F virtualize  
D virtualized

**md5** table

F HEX  
F dec  
F hex  
F sum  
F sumHEXA  
F sumhexa

**metapost** table

F checkformat  
F checktracingonline  
F cm  
F colorinitializer  
F convert  
F currentmpx  
F currentmpxstatus  
S defaultformat  
S defaultinstance  
S defaultmethod  
F directrun  
F escaped  
D extensiondata  
F filterclippath  
F flush  
F flushnormalpath  
F format\_number  
F format\_string  
F formatnumber  
F getbackendoption  
F getbendtolerance  
F getbuffer  
F getclippath  
F getextensions  
F getextradata

F gethashentries  
F getinstancebyname  
F getinstanceinfo  
F getinstancenames  
F getjobdata  
F getmovetolerance  
F getparameter  
F getparameterpreset  
F getparameterset  
F getrecord  
F getstatistics  
F gettext  
F gettolerance  
F graphic  
F graphic\_base\_pass  
F hascurvature  
F includesvgbuffer  
F includesvgfile  
F installplugin  
F isobject  
S lastlog  
F load  
F maketext  
F mesh  
F mesher  
F meshupper  
N n  
F newlogger  
N nofruns  
F nofscriptruns  
F nvformat  
F pdfliterals  
F pluginactions  
F popformat  
F popscriptrunner  
F popvariable  
F popvariables  
F preparetextstdata  
F process  
F processing  
F processplugins  
F pushformat  
F pushscriptrunner  
F pushvariable

F pushvariables  
 B quitonerror  
 B reducetogray  
 F registerdirect  
 F registermesher  
 F registermeshupper  
 F registerscript  
 F registertokens  
 F remappedtext  
 F remaptext  
 F reporterror  
 F reportsvgfonts  
 F reset  
 F resetbackendoptions  
 F resetlastlog  
 F resetplugins  
 F run  
 F runinternal  
 F runscript  
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| F new                |          | F acos            |       |
| F open               |          | F asin            |       |

F atan  
F band  
F bor  
F bxor  
F ceil  
F conj  
F copy  
F cos  
F exp  
F exp2  
F expand  
F floor  
F frombyte  
F fromchar  
F fromposit  
F integer  
F log  
F log10  
F log1p  
F log2  
F logb  
F max  
F min  
F modf  
F new  
F pow  
F rotate  
F round  
F rounded  
F shift  
F sin  
F sqrt  
F tan  
F tobyte  
F tochar  
F tonumber  
F toposit  
F toString

## potrace

F checked  
F concat  
F contourplot  
F convert  
F count

## table

F flush  
F free  
F fromfile  
F getbitmap  
F getnewfields  
F getpolicyvalues  
F getprocessfields  
F new  
F process  
F setbitmap  
F stripped  
F totable  
F trace

## print publications

F addtexentry  
F analyze  
F anywhere  
D authorcache  
D authorcollapsers  
D authormap  
F authortoregister  
F checkeddataset  
D collected  
F concatstate  
F converttoxml  
F endnotes\_to\_btx  
F finder  
F firstofrange  
F found  
F get  
F getcasted  
F getdetail  
F getdirect  
F getfaster  
F getfield  
F getfuzzy  
F getindex  
D inspectors  
F lastofrange  
F load  
F loadbibdata  
F loaddefinitionfile  
F loadreplacementfile

## function table

|                    |          |                                |
|--------------------|----------|--------------------------------|
| F new              |          | F booleanvariable              |
| F okay             |          | S cacheversion                 |
| F oneorrange       |          | F checkedvariable              |
| F parenttag        |          | F cleanedpathlist              |
| F permitted        |          | D cleaners                     |
| F prerollcmdstring |          | F cleanpath                    |
| F refman_to_btx    |          | F cleanpathlist                |
| F resolvedname     |          | F cleanupbinfile               |
| F save             |          | D concatenators                |
| F search           |          | S configbanner                 |
| F setcategory      |          | F configurationfiles           |
| F setspecification |          | D dangerous                    |
| F singularorplural |          | F datastate                    |
| F sortedentries    |          | F dirstatus                    |
| F splitauthor      |          | F dowithfilesandreport         |
| F splitoneauthor   |          | F dowithfilesintree            |
| F tags             |          | F dowithpath                   |
| F usedataset       |          | F dowithvariable               |
| F usedentries      |          | F expandbraces                 |
| <b>qrcodegen</b>   | table    | F expandedpathfromlist         |
| F bitmap           |          | F expandedpathlist             |
| F generate         |          | F expandedpathlistfromvariable |
| <b>rawequal</b>    | function | F expandpath                   |
| <b>rawget</b>      | function | F expandpathfromvariable       |
| <b>rawlen</b>      | function | F expansion                    |
| <b>rawset</b>      | function | F extendtexmfvariable          |
| <b>regimes</b>     | table    | F filtered_from_content        |
| D backmapping      |          | F find_file                    |
| F cleanup          |          | F find_files                   |
| F disable          |          | F findbinfile                  |
| F enable           |          | F findctxfile                  |
| F fromregime       |          | D finders                      |
| F list             |          | F findfile                     |
| D mapping          |          | F findfiles                    |
| F pop              |          | F findgivenfile                |
| F process          |          | F findgivenfiles               |
| F push             |          | F findlib                      |
| F toregime         |          | F findpath                     |
| F translate        |          | F findpk                       |
| <b>require</b>     | function | F findtexfile                  |
| <b>resolvers</b>   | table    | F findwildcardfile             |
| F allprefixes      |          | F findwildcardfiles            |
| F appendhash       |          | F formatofsuffix               |
| F automount        |          | F formatofvariable             |

|                           |                          |
|---------------------------|--------------------------|
| D formats                 | D prefixes               |
| F foundintree             | F prependhash            |
| F foundintrees            | F pushextrapath          |
| D generators              | F pushinputname          |
| F get_from_content        | F pushpath               |
| F getdetails              | F registerextrapath      |
| F getenv                  | F registerfile           |
| F getextrapaths           | F registerfilehash       |
| F getfilehashes           | F registerintrees        |
| F gethashes               | F registermethod         |
| F getownpath              | F registerzipfile        |
| F getreadfilename         | D relations              |
| D hashers                 | F renew                  |
| S homedir                 | F renewcache             |
| F ignorelibrary           | F repath                 |
| F initialized             | F reset                  |
| F installinputfilehandler | F resetextrapaths        |
| F installinputlinehandler | F resetresolve           |
| F jobpath                 | F resolve                |
| F joinpath                | D savers                 |
| F knownvariables          | F scandata               |
| F load                    | F scanfiles              |
| F loadbinfile             | F setdynamic             |
| D loaders                 | F setenv                 |
| F loadluafile             | F showdetails            |
| F loadtexfile             | F showpath               |
| F loadtime                | F simplescanfiles        |
| F locateformat            | F splitconfigurationpath |
| D locators                | F splitexpansions        |
| S luacnffallback          | F splitmethod            |
| S luacnfname              | F splitpath              |
| S luacnfspec              | F stackpath              |
| S luacnfstate             | F starttiming            |
| N maxreadlevel            | F stoptiming             |
| F methodhandler           | D suffixes               |
| F missinglibrary          | D suffixmap              |
| F openbinfile             | F suffixofformat         |
| D openers                 | F texdatablob            |
| F openfile                | F toppath                |
| F opentexfile             | D tracers                |
| S ownpath                 | F unexpandedpath         |
| F popextrapath            | F unexpandedpathlist     |
| F popinputname            | F unresolve              |
| F poppath                 | F updaterelations        |

- F updatescript
- F uselibrary
- D usertypes
- F usezipfile
- F validatedpath
- F variable
- F variableofformat
- F variableofformatorsuffix
- F wildcardpattern

**sandbox** table

- F blockrequire
- F disablelibraries
- F disablerunners
- F enable
- F filehandlerone
- F filehandlertwo
- F finalizer
- F getrunner
- F initializer
- F iohandler
- F logcalls
- F logfiles
- F original
- F overload
- F possiblepath
- F redefine
- F register
- F registerbinary
- F registerlibrary
- F registerrroot
- F registerrunner
- F report
- F setfilenamelogger
- F setlogger
- F setreporter
- F settrace
- F validfilename

**scripts** table

- D colors
- F decomposehangul
- F getdata
- F getinjector
- F getsplitter
- F getstatus

- D handlers
- D helpers
- D injectors
- F installdataset
- F installmethod
- D numbertodataset
- D numbertohandler
- F reset
- F set
- F setstatus
- D splitters

**select** function

**serial** table

- F \_\_gc
- S \_\_name
- F \_\_tostring
- F close
- F open
- F send
- F tostring
- F write

**set** table

- F contains
- F create
- F tolist
- F tonumber
- F totable

**setinspector** function

**setmathparameters** function

**setmetatable** function

**sha2** table

- F HASH256
- F HASH384
- F HASH512
- F HEX256
- F HEX384
- F HEX512
- F digest256
- F digest384
- F digest512
- F hash256
- F hash384
- F hash512
- F hex256

F hex384  
 F hex512  
 F sum256  
 F sum384  
 F sum512  
**sio** table  
 F read2dot14  
 F readbytes  
 F readbytetable  
 F readcardinal1  
 F readcardinal1le  
 F readcardinal2  
 F readcardinal2le  
 F readcardinal3  
 F readcardinal3le  
 F readcardinal4  
 F readcardinal4le  
 F readcardinaltable  
 F readcline  
 F readcstring  
 F readdouble  
 F readdoublele  
 F readfixed2  
 F readfixed4  
 F readfloat  
 F readfloatle  
 F readfloatle12  
 F readfloatle6  
 F readinteger1  
 F readinteger1le  
 F readinteger2  
 F readinteger2le  
 F readinteger3  
 F readinteger3le  
 F readinteger4  
 F readinteger4le  
 F readintegertable  
 F tocardinal1  
 F tocardinal1le  
 F tocardinal2  
 F tocardinal2le  
 F tocardinal3  
 F tocardinal3le  
 F tocardinal4

F tocardinal4le  
**socket** table  
 N BLOCKSIZE  
 N \_SETSIZE  
 N \_SOCKETINVALID  
 F bind  
 F choose  
 F connect  
 F connect4  
 F connect6  
 F gettime  
 F newtry  
 F protect  
 F report  
 F select  
 F sink  
 F skip  
 F sleep  
 F source  
 F tcp  
 F tcp4  
 F tcp6  
 F try  
**sorters** table  
 F basicsorter  
 D definitions  
 F firstofsplit  
 F packch  
 F packuc  
 F replacementlist  
 F setlanguage  
 F sort  
 F strip  
 D tracers  
 F update  
**sparse** table  
 F concat  
 F get  
 F max  
 F min  
 F new  
 F range  
 F restore  
 F set

F traverse  
 F wipe  
**statistics**                    table  
 F benchmarktimer  
 F checkfmtstatus  
 F currenttime  
 F elapsed  
 F elapsedindeed  
 F elapsedseconds  
 F elapsedtime  
 B enable  
 F formatruntime  
 F hastiming  
 F memused  
 F register  
 F resettiming  
 F runtime  
 F savefmtstatus  
 F show  
 F showmemory  
 F showusage  
 F starttiming  
 F stoptiming  
 N threshold  
 F timed  
 F tracefunction

**status**                    table  
 F getbalancestate  
 F getbufferstate  
 F getcallbackstate  
 F getconstants  
 F geterrorlinestate  
 F geterrorstate  
 F getexpandstate  
 F getfilestate  
 F getfontstate  
 F gethalferrorlinestate  
 F gethashstate  
 F gethyphenationstate  
 F getinputstate  
 F getinsertstate  
 F getlanguagestate  
 F getlinebreakstate  
 F getlookupstate

F getluastate  
 F getmarkstate  
 F getmvlstate  
 F getneststate  
 F getnodestate  
 F getparameterstate  
 F getpoolstate  
 F getreadstate  
 F getsavestate  
 F getsparsestate  
 F getstringstate  
 F gettextstate  
 F gettokenstate  
 F getwarningstate  
 F list  
 F resetmessages

**storage**                    table  
 F allocate  
 F mark  
 F marked  
 N max  
 N min  
 N nofmodules  
 N noftables  
 F register  
 D shared  
 D storedfunctions  
 B strip  
 N tofmodules  
 N toftables

**streams**                    table  
 F collect  
 F disable  
 F enable  
 F flush  
 F initialize  
 F push  
 F start  
 F stop  
 F synchronize

**string**                    table  
 F autodouble  
 F autosingle  
 F booleanstring

|                   |                      |
|-------------------|----------------------|
| F byte            | F replacenewlines    |
| F bytepairs       | F reverse            |
| F bytes           | F split              |
| F bytetable       | F splitintolines     |
| F char            | F splitlines         |
| F characterpairs  | F splitup            |
| F characters      | F strip              |
| F checkedsplit    | F sub                |
| F chrtointeger    | F texhashed          |
| F collapsespaces  | F texnewlines        |
| F containsws      | F tformat            |
| F count           | F toHEX              |
| F dectointeger    | F toboolean          |
| F dump            | F tobytes            |
| F escapedpattern  | F tocontext          |
| F escapedquotes   | F todec              |
| F f6              | F todimen            |
| F find            | F tohex              |
| F format          | F tonodes            |
| F formatter       | F topattern          |
| D formatters      | F totable            |
| F fullstrip       | F tounicode16        |
| F gmatch          | F toutf              |
| F gsub            | F toutf16            |
| F hextocharacters | F toutf32            |
| F hextointeger    | F toutf8             |
| F is_boolean      | F tracedchar         |
| F is_empty        | F unescapedquotes    |
| F itself          | F unpack             |
| F len             | F unquote            |
| F limit           | F unquoted           |
| F linetable       | F upper              |
| F longtostring    | F utf16toutf8        |
| F lower           | F utfcharacter       |
| F match           | F utfcharacters      |
| F nospaces        | F utfcharacterstable |
| F octtointeger    | F utflength          |
| F optionalquoted  | F utfpadd            |
| F pack            | F utfpadding         |
| F packrowscolumns | F utftabletostring   |
| F packsize        | F utfvalue           |
| F quote           | F utfvalues          |
| F quoted          | F utfvaluetable      |
| F rep             | F valid              |

F wordsplitter

**structures**                    **table**

F atlocation

F currentsectionnumber

**table**                            **table**

F append

F are\_equal

F combine

F compact

F concat

F contains

F copy

F count

F create

F derive

F deserialize

F fastcopy

F fastserialize

F filtered

F flattened

F fromhash

F getn

F has\_one\_entry

F hashed

F identical

F imerge

F imerged

F insert

F is\_empty

F is\_simple\_table

F keys

F load

F loweredkeys

F makewweak

F merge

F merged

F mirrored

F move

F pack

F prepend

F print

F remove

F reverse

F reversed

F save

F sequenced

F serialize

F setmetatablecall

F setmetatableindex

F setmetatableindices

F setmetatblenewindex

F sort

F sorted

F sortedhash

F sortedhashkeys

F sortedhashonly

F sortedindexonly

F sortedkeys

F sortedpairs

F sparse

F strip

F sub

F swapped

F tocontext

F tocsv

F tofile

F tohandle

F tohash

F toxml

F unique

F unpack

**tex**                                    **table**

F attributetracking

D automigrationcodes

D autoparagraphcodes

F badness

D badnessmodecodes

F balance

D balancecallbackcodes

D boxcontinuationcodes

D boxoptioncodes

D breakcodes

D buildcodes

D charactercontrolcodes

D charactertagcodes

F chardef

D classoptioncodes

D conditionals

|                                 |                                |
|---------------------------------|--------------------------------|
| D constants                     | F getboxoptionvalues           |
| F cprint                        | F getboxresourcebox            |
| N ctdcatcodes                   | F getboxresourcedimensions     |
| N ctxcatcodes                   | F getbreakcontextvalues        |
| F definefont                    | F getbuildcontextvalues        |
| F dimensiondef                  | F getcardinalvalue             |
| D directioncodes                | F getcatcode                   |
| D directives                    | F getccode                     |
| D discoptioncodes               | F getcharactercontrolvalues    |
| D discpartcodes                 | F getcharacteretagvalues       |
| F dontcomplain                  | F getcount                     |
| D doublescriptoptioncodes       | F getcurrentmvl                |
| F enableprimitives              | F getdelayedgluelocationvalues |
| F error                         | F getdelayedgluetargetvalues   |
| F expandasvalue                 | F getdelcode                   |
| D experiments                   | F getdelcodes                  |
| F extraprimitives               | F getdimen                     |
| F fatalerror                    | F getdimensionvalue            |
| D fillcodes                     | F getdirectionvalues           |
| D flagcodes                     | F getdiscoptionvalues          |
| F fontidentifier                | F getdiscpartvalues            |
| F fontname                      | F getdoublescriptoptionvalues  |
| F forcehmode                    | F getemptyparagraphmodevalues  |
| F forceinputstatefile           | F geterrorrecoverymodevalues   |
| F forceinputstateline           | F geterrorvalues               |
| F fprint                        | F getfillvalues                |
| D frozenparcodes                | F getflagvalues                |
| F get                           | F getfloat                     |
| F getadjustoptionvalues         | F getfontdimension             |
| F getalignmentcontextvalues     | F getfontoffamily              |
| F getamcode                     | F getfrozenparvalues           |
| F getappendadjustcontextvalues  | F getglue                      |
| F getappendmigratecontextvalues | F getglueoptionvalues          |
| F getattribute                  | F getglyphdata                 |
| F getautomigrationvalues        | F getglyphdiscvalues           |
| F getautoparagraphvalues        | F getglyphoptionvalues         |
| F getbadnessmodevalues          | F getglyphprotectionvalues     |
| F getbalancecallbackvalues      | F getglyphscales               |
| F getbalanceparameterfields     | F getglyphscript               |
| F getbalanceresultfields        | F getglyphstate                |
| F getbalancestepoptionvalues    | F getgroupvalues               |
| F getbox                        | F gethccode                    |
| F getboxcontinuationvalues      | F gethelptext                  |
| F getboxdir                     | F gethmode                     |

|                               |                              |
|-------------------------------|------------------------------|
| F gethyphenationvalues        | F getmathgluevalues          |
| F getiftypes                  | F getmathoptionvalues        |
| F getinputstatefile           | F getmathparametervalues     |
| F getinputstateline           | F getmathscriptordervalues   |
| F getinputstatemode           | F getmathscriptsmodevalues   |
| F getinsertcategoryvalues     | F getmathstylenamevalues     |
| F getinsertcontent            | F getmathstylevalues         |
| F getinsertdepth              | F getmathstylevariant        |
| F getinsertdistance           | F getmathsurroundvalues      |
| F getinsertheight             | F getmathvariantpresets      |
| F getinsertlimit              | F getmathvariantvalues       |
| F getinsertmaxplaced          | F getmeasure                 |
| F getinsertmultiplier         | F getmissingcharactervalues  |
| F getinsertoptionvalues       | F getmode                    |
| F getinsertsplitvalues        | F getmodevalues              |
| F getinsertwidth              | F getmuglue                  |
| F getintegervalue             | F getmuskip                  |
| F getinteraction              | F getmvloptionvalues         |
| F getinteractionmodes         | F getnest                    |
| F getiovalues                 | F getnestfields              |
| F getkerneloptionvalues       | F getnestlevel               |
| F getkernoptionvalues         | F getnoadoptiovalues         |
| F getlargestusedmark          | F getnormalizelinevalues     |
| F getlccode                   | F getnormalizerparvalues     |
| F getlinebreakparameterfields | F getnospacesmodevalues      |
| F getlinebreakresultfields    | F getoutputactive            |
| F getlinebreakstatevalues     | F getoverloadstate           |
| F getlinedir                  | F getpacktypevalues          |
| F getlist                     | F getpagecontextvalues       |
| F getlistanchorvalues         | F getpagestate               |
| F getlistfields               | F getpagestatevalues         |
| F getlistgeometryvalues       | F getparagraphfillmodevalues |
| F getlistsigvalues            | F getparagraphoptionvalues   |
| F getlocalbox                 | F getparametermodevalues     |
| F getlocalboxlocations        | F getparcontextvalues        |
| F getlocallevel               | F getpardataspecifications   |
| F getmark                     | F getpardir                  |
| F getmarknames                | F getparmodevalues           |
| F getmath                     | F getparstate                |
| F getmathclassoptionvalues    | F getparstatefields          |
| F getmathcode                 | F getpartriggervalues        |
| F getmathcodes                | F getpenaltyoptionvalues     |
| F getmathcontrolvalues        | F getpositvalue              |
| F getmathdir                  | F getprepoststatevalues      |

|                                |                           |
|--------------------------------|---------------------------|
| F getprimitivelegacies         | F isfloat                 |
| F getprimitiveorigins          | F isglue                  |
| F getprotrusionboundaryvalues  | F ismuglue                |
| F getregisterindex             | F ismuskip                |
| F getruleoptionvalues          | F isprintable             |
| F getrunstate                  | F isskip                  |
| F getrunstatevalues            | F istoks                  |
| F getsfcode                    | F lastnodetype            |
| F getshapingpenaltiesvalues    | F linebreak               |
| F getskip                      | D linebreakstatecodes     |
| F getsnappingvalues            | D listanchorcodes         |
| F getspacefactorvalues         | D listgeometrycodes       |
| F getspacekipvalues            | D listsigncodes           |
| F getspacecode                 | N luacatcodes             |
| F getspecialmathclassvalues    | F mathchardef             |
| F getspecification             | D mathcontrolcodes        |
| F getspecificationoptionvalues | D mathoptioncodes         |
| F gettextcontrolvalues         | D mathparametercodes      |
| F gettextdir                   | D mathscriptordercodes    |
| F gettoks                      | D mathscriptsmodecodes    |
| F getuccode                    | D modes                   |
| F getuleaderlocationvalues     | F mprint                  |
| F getunitclassvalues           | D mvloptioncodes          |
| F getusedmarks                 | N nilcatcodes             |
| F getvsplitcontextvalues       | D noadoptioncodes         |
| D glueoptioncodes              | D normalizelinecodes      |
| D glyphdisccodes               | D normalizeparcodes       |
| D glyphoptioncodes             | D nospacesmodecodes       |
| D groupcodes                   | N notcatcodes             |
| F hashtokens                   | F number                  |
| N hshcatcodes                  | D paragraphfillmodecodes  |
| D hyphenationcodes             | D paragraphoptioncodes    |
| D ifs                          | D parcontextcodes         |
| N inicatcodes                  | D partriggercodes         |
| D insertcategorycodes          | D penaltyoptioncodes      |
| D insertoptioncodes            | F poplocal                |
| D insertsplitcodes             | F popsavelevel            |
| F integerdef                   | F positdef                |
| D interactioncodes             | F preparelinebreak        |
| F isattribute                  | F primitives              |
| F isbox                        | F print                   |
| F iscount                      | D protrusionboundarycodes |
| F isdefined                    | N prtcatcodes             |
| F isdimen                      | F pushlocal               |

|                       |                            |
|-----------------------|----------------------------|
| F pushsavelevel       | F setintegervalue          |
| F quitlocal           | F setinteraction           |
| F quittoks            | F setlccode                |
| F resetparagraph      | F setlinedir               |
| N rlnecatcodes        | F setlist                  |
| F romannumeral        | F setlocalbox              |
| F round               | F setmath                  |
| D ruleoptioncodes     | F setmathcode              |
| F runlocal            | F setmathdir               |
| D runstatecodes       | F setmuglue                |
| F runstring           | F setmuskip                |
| F runtoks             | F setnest                  |
| F saveboxresource     | F setoverloadstate         |
| F scale               | F setpardir                |
| F scantoks            | F setpositvalue            |
| F set                 | F setrunstate              |
| F setamcode           | F setsfcode                |
| F setattribute        | F setskip                  |
| F setbalanceshape     | F setspcode                |
| F setbox              | F settextdir               |
| F setboxdir           | F settoks                  |
| F setcardinalvalue    | F setuccode                |
| F setcatcode          | D shapingpenaltiescodes    |
| F setcccode           | F shiftparshape            |
| F setconditional      | F shipout                  |
| F setcount            | F showcontext              |
| F setdelcode          | D snappingcodes            |
| F setdimen            | F snapshotpar              |
| F setdimensionvalue   | F sp                       |
| F setfloat            | D spacefactorcodes         |
| F setglue             | D spaceskipcodes           |
| F setglyphdata        | D specialmathclasscodes    |
| F setglyphscript      | D specificationoptioncodes |
| F setglyphstate       | F splitbox                 |
| F sethccode           | D splitcodes               |
| F sethmcode           | F sprint                   |
| F setinputstatefile   | F stringtocodesbitmap      |
| F setinputstateline   | D systemmodes              |
| F setinputstatemode   | F takebox                  |
| F setinsertcontent    | N texcatcodes              |
| F setinsertdistance   | D textcontrolcodes         |
| F setinsertlimit      | F tonumber                 |
| F setinsertmaxplaced  | F toscaled                 |
| F setinsertmultiplier | N tpcatcodes               |

|                        |                      |   |                  |
|------------------------|----------------------|---|------------------|
| N                      | tpbcatcodes          | F | create           |
| F                      | tprint               | F | expand           |
| F                      | trackedattribute     | F | expand_macro     |
| D                      | trackers             | F | expandmacro      |
| F                      | triggerbuildpage     | F | future_expand    |
| N                      | txtcatcodes          | F | futureexpand     |
| F                      | uprint               | F | get_active       |
| F                      | useboxresource       | F | get_cmdchrsc     |
| D                      | userdiscoptioncodes  | F | get_cmdname      |
| D                      | userglyphoptioncodes | F | get_command      |
| N                      | vrbcacodes           | F | get_csname       |
| F                      | write                | F | get_cstoken      |
| <b>texconditionals</b> | data table           | F | get_dimension    |
| <b>texconfig</b>       | table                | F | get_expandable   |
| S                      | firstline            | F | get_fields       |
| S                      | formatname           | F | get_flags        |
| N                      | functionsiz          | F | get_frozen       |
| F                      | init                 | F | get_id           |
| B                      | kpse_init            | F | get_immutable    |
| N                      | propertiessiz        | F | get_index        |
| S                      | shell_escape         | F | get_instance     |
| <b>texconstants</b>    | data table           | F | get_integer      |
| <b>texifs</b>          | data table           | F | get_macro        |
| <b>texio</b>           | table                | F | get_meaning      |
| F                      | closeinput           | F | get_noaligned    |
| F                      | forceendoffile       | F | get_parameters   |
| F                      | getinputindex        | F | get_permanent    |
| F                      | getselectorvalues    | F | get_primitive    |
| F                      | getsourcefilename    | F | get_protected    |
| F                      | setlogfile           | F | get_range        |
| F                      | terminal             | F | get_tok          |
| F                      | write                | F | get_tolerant     |
| F                      | write_nl             | F | getactive        |
| F                      | writenl              | F | getcmdchrsc      |
| F                      | writeselector        | F | getcmdname       |
| F                      | writeselectorlf      | F | getcommand       |
| F                      | writeselectornl      | F | getcommandvalues |
| <b>texisdefined</b>    | data table           | F | getconstant      |
| <b>texmodes</b>        | data table           | F | getcsname        |
| <b>texsystemmodes</b>  | data table           | F | getcstoken       |
| <b>thirddata</b>       | table                | F | getdimension     |
| <b>toboolean</b>       | function             | F | getexpandable    |
| <b>todecimal</b>       | function             | F | getexpansion     |
| <b>token</b>           | table                | F | getfields        |

|                      |                        |
|----------------------|------------------------|
| F getflags           | F popmacro             |
| F getfrozen          | F push_macro           |
| F getfunctionvalues  | F pushmacro            |
| F getid              | F put_back             |
| F getimmutable       | F put_next             |
| F getindex           | F putback              |
| F getinstance        | F putnext              |
| F getinteger         | F save_lua             |
| F getlength          | F savelua              |
| F getmacro           | F scan_argument        |
| F getmeaning         | F scan_box             |
| F getnoaligned       | F scan_cardinal        |
| F getparameters      | F scan_char            |
| F getpermanent       | F scan_cmdchr          |
| F getprimitive       | F scan_cmdchr_expanded |
| F getprimitives      | F scan_code            |
| F getprotected       | F scan_csname          |
| F getrange           | F scan_delimited       |
| F gettok             | F scan_dimen           |
| F gettolerant        | F scan_float           |
| F gobble             | F scan_glue            |
| F gobble_dimension   | F scan_integer         |
| F gobble_integer     | F scan_key             |
| F gobbledimension    | F scan_keyword         |
| F gobbleinteger      | F scan_keyword_cs      |
| F grab               | F scan_letters         |
| F grabstring         | F scan_luacardinal     |
| F inhibit            | F scan_luainteger      |
| F is_defined         | F scan_luanumber       |
| F is_next_char       | F scan_next            |
| F is_token           | F scan_next_char       |
| F isactivestring     | F scan_next_expanded   |
| F isdefined          | F scan_real            |
| F isnextchar         | F scan_scale           |
| F istoken            | F scan_skip            |
| F locatemacro        | F scan_string          |
| F new                | F scan_token           |
| F peek_next          | F scan_token_code      |
| F peek_next_char     | F scan_tokenlist       |
| F peek_next_expanded | F scan_toks            |
| F peeknext           | F scan_value           |
| F peeknextchar       | F scan_word            |
| F peeknextexpanded   | F scanargument         |
| F pop_macro          | F scanbox              |

|                         |                      |          |
|-------------------------|----------------------|----------|
| F scancardinal          | F set_macro          |          |
| F scanchar              | F setdimension       |          |
| F scancmdchr            | F setinteger         |          |
| F scancmdchrexploded    | F setlua             |          |
| F scancode              | F setmacro           |          |
| F scanscname            | F setmacrofrommark   |          |
| F scancstoken           | F setmacrotonothing  |          |
| F scandelimited         | F skip_next          |          |
| F scandetokened         | F skip_next_expanded |          |
| F scandimen             | F skipnext           |          |
| F scandimenargument     | F skipnextexpanded   |          |
| F scandimension         | F type               |          |
| F scandimensionargument | F undefine_macro     |          |
| F scanfloat             | F undefinemacro      |          |
| F scanglue              | <b>tokens</b>        | table    |
| F scanint               | F astable            |          |
| F scaninteger           | D cache              |          |
| F scanintegerargument   | D commands           |          |
| F scankey               | F compile            |          |
| F scankeyword           | F constant           |          |
| F scankeywordcs         | F create             |          |
| F scanletters           | F defined            |          |
| F scanluacardinal       | F flags              |          |
| F scanluainteger        | F getinteger         |          |
| F scanluanumber         | F gobble             |          |
| F scannext              | F isactivestring     |          |
| F scannextchar          | F isdefined          |          |
| F scannextexpanded      | F istoken            |          |
| F scanposit             | F new                |          |
| F scanreal              | F pickup             |          |
| F scanscale             | F popmacro           |          |
| F scanskip              | F pushmacro          |          |
| F scanstring            | F setinteger         |          |
| F scantoken             | D values             |          |
| F scantokencode         | <b>tonumber</b>      | function |
| F scantokenlist         | <b>tostring</b>      | function |
| F scantokenstring       | <b>tracers</b>       | table    |
| F scantoks              | F printerror         |          |
| F scanvalue             | F printwarning       |          |
| F scanword              | F showlines          |          |
| F serialize             | <b>trackers</b>      | table    |
| F set_dimension         | D data               |          |
| F set_integer           | F default            |          |
| F set_lua               | F disable            |          |

|                      |          |
|----------------------|----------|
| F dumphashtofile     |          |
| F enable             |          |
| F list               |          |
| S name               |          |
| F register           |          |
| F report             |          |
| F reset              |          |
| F savehash           |          |
| F show               |          |
| F value              |          |
| F values             |          |
| <b>type</b>          | function |
| <b>typesetters</b>   | table    |
| F marksuspects       |          |
| F showinvisibles     |          |
| F showsuspects       |          |
| <b>unpack</b>        | function |
| <b>updaters</b>      | table    |
| F apply              |          |
| F register           |          |
| <b>url</b>           | table    |
| F addscheme          |          |
| F barepath           |          |
| F construct          |          |
| F decode             |          |
| F encode             |          |
| F escape             |          |
| F filename           |          |
| F hashed             |          |
| F hasscheme          |          |
| F query              |          |
| F split              |          |
| F toquery            |          |
| F unescape           |          |
| F unescapeget        |          |
| <b>userdata</b>      | table    |
| <b>utf</b>           | table    |
| F byte               |          |
| F bytepairs          |          |
| F char               |          |
| F characters         |          |
| F chrln              |          |
| F count              |          |
| F filetype           |          |
| F is_valid           |          |
| F len                |          |
| F length             |          |
| F lower              |          |
| F remapper           |          |
| F replacer           |          |
| F split              |          |
| F splitlines         |          |
| F sub                |          |
| F substituter        |          |
| F tocodes            |          |
| F toeight            |          |
| F toentities         |          |
| F toString           |          |
| F totable            |          |
| F upper              |          |
| F ustring            |          |
| F utf16_to_utf8_be   |          |
| F utf16_to_utf8_be_t |          |
| F utf16_to_utf8_le   |          |
| F utf16_to_utf8_le_t |          |
| F utf16_to_utf8_t    |          |
| F utf32_to_utf8_be   |          |
| F utf32_to_utf8_be_t |          |
| F utf32_to_utf8_le   |          |
| F utf32_to_utf8_le_t |          |
| F utf32_to_utf8_t    |          |
| F utf8_to_utf16      |          |
| F utf8_to_utf16_be   |          |
| F utf8_to_utf16_le   |          |
| F utf8_to_utf8_t     |          |
| F values             |          |
| F xstring            |          |
| <b>utf8</b>          | table    |
| F char               |          |
| S charpattern        |          |
| F codepoint          |          |
| F codes              |          |
| F len                |          |
| F offset             |          |
| <b>utilities</b>     | table    |
| <b>vector</b>        | table    |
| F add                |          |
| F append             |          |

F average  
F ceiling  
F checkoverlap  
F collectoverlap  
F concat  
F copy  
F crossproduct  
F delete  
F determinant  
F div  
F equal  
F exchange  
F floor  
F get  
F getdimensions  
F getepsilon  
F getmemory  
F getmesh  
F getrc  
F getrow  
F getsize  
F getstacking  
F gettype  
F homogenize  
F identity  
F inner  
F insert  
F inverse  
F ismesh  
F ispoints  
F issingular  
F isvector  
F iszero  
F meshname  
F mul  
F negate  
F new  
F normalize  
F onecolumn  
F onerow  
F product  
F remove  
F replace  
F round

F rowechelon  
F set  
F setepsilon  
F setnext  
F setrc  
F setstacking  
F slice  
F sort  
F sub  
F swap  
F tostring  
F totable  
F transpose  
F triangulate  
F truncate  
F type

## visualizers

## table

D escapepatterns  
F getspecification  
F getvisualizer  
F load  
F makenested  
F makepattern  
F newgrammar  
F newhandler  
F parsedxml  
F pattern  
F register  
F registerescapecommand  
F registerescapeline  
F registerescapepattern  
S signal  
U signalpattern  
D specifications  
F visualize  
F visualizebuffer  
F visualizefile  
F visualizestring  
F write  
F writeargument  
F writedefault  
F writeemptyline  
F writenewline  
F writespace

|                 |          |                 |       |
|-----------------|----------|-----------------|-------|
| <b>warn</b>     | function | F voigt         |       |
| <b>xcomplex</b> | table    | F voigt_hwhm    |       |
| F I             |          | <b>xdecimal</b> | table |
| F __add         |          | F __add         |       |
| F __div         |          | F __band        |       |
| F __eq          |          | F __bor         |       |
| F __mul         |          | F __bxor        |       |
| S __name        |          | F __div         |       |
| F __pow         |          | F __eq          |       |
| F __sub         |          | F __idiv        |       |
| F __tostring    |          | F __le          |       |
| F __unm         |          | F __lt          |       |
| F abs           |          | F __mod         |       |
| F acos          |          | F __mul         |       |
| F acosh         |          | S __name        |       |
| F arg           |          | F __pow         |       |
| F asin          |          | F __shl         |       |
| F asinh         |          | F __shr         |       |
| F atan          |          | F __sub         |       |
| F atanh         |          | F __tostring    |       |
| F conj          |          | F __unm         |       |
| F cos           |          | F abs           |       |
| F cosh          |          | F band          |       |
| F dawson        |          | F bor           |       |
| F erf           |          | F bxor          |       |
| F erfc          |          | F conj          |       |
| F erfcx         |          | F copy          |       |
| F erfi          |          | F exp           |       |
| F exp           |          | F getprecision  |       |
| F i             |          | F ln            |       |
| F imag          |          | F log           |       |
| F log           |          | F max           |       |
| F new           |          | F min           |       |
| F pow           |          | F minus         |       |
| F proj          |          | F new           |       |
| F real          |          | F plus          |       |
| F sin           |          | F pow           |       |
| F sinh          |          | F rotate        |       |
| F sqrt          |          | F setprecision  |       |
| F tan           |          | F shift         |       |
| F tanh          |          | F sqrt          |       |
| F topair        |          | F toengstring   |       |
| F tostring      |          | F tonumber      |       |
| F totable       |          | F tostring      |       |

F trim  
**xinterval** table  
F \_\_add  
F \_\_div  
F \_\_eq  
F \_\_le  
F \_\_lt  
F \_\_mod  
F \_\_mul  
S \_\_name  
F \_\_pow  
F \_\_sub  
F \_\_tostring  
F \_\_unm  
F abs  
F acos  
F acosh  
F asin  
F asinh  
F asstring  
F atan  
F atanh  
F cos  
F cosh  
F diameter  
F equal  
F erf  
F erfc  
F exp  
F exp10  
F exp2  
F expm1  
F greater  
F greaterequal  
F hull  
F intersect  
F less  
F lessequal  
F log  
F log10  
F log1p  
F log2  
F mid  
F mod

F new  
F neweps  
F pow  
F seteq  
F setge  
F setgt  
F setle  
F setlt  
F sin  
F sinh  
F sqr  
F sqrt  
F tan  
F tanh  
F topair  
F tostring  
F totable  
F usedendian  
F within

**xmath** table  
F acos  
F acosh  
F asin  
F asinh  
F atan  
F atan2  
F atanh  
F cbrt  
F ceil  
F copysign  
F cos  
F cosh  
F crossproduct  
F deg  
F dotproduct  
F erf  
F erfc  
F exp  
F exp2  
F expm1  
F fabs  
F fdim  
F floor  
F fma

|             |                      |
|-------------|----------------------|
| F fmax      | F addentitiesdoctype |
| F fmin      | F addspecialcode     |
| F fmod      | F after              |
| F frexp     | F all                |
| F gamma     | F applylpath         |
| F hypot     | F applyselector      |
| N inf       | F assign             |
| F isfinite  | F attribute          |
| F isinf     | F badinclusions      |
| F isnan     | F before             |
| F isnormal  | F body               |
| F j0        | F cdata              |
| F j1        | F cdatatotext        |
| F jn        | F checkbom           |
| F ldexp     | F checkedempty       |
| F lgamma    | F checkerror         |
| F log       | F checknamespace     |
| F log10     | F checkns            |
| F log1p     | F cleansed           |
| F log2      | F collect            |
| F logb      | F collect_elements   |
| F modf      | F collect_tags       |
| N nan       | F collect_texts      |
| F nearbyint | F collected          |
| F nextafter | F collecttexts       |
| F normalize | F compactelement     |
| N pi        | F content            |
| F pow       | F convert            |
| F rad       | F copy               |
| F remainder | F count              |
| F remquo    | F cprint             |
| F round     | S defaultprotocol    |
| F scalbn    | F delete             |
| F sin       | F delete_element     |
| F sinh      | F despecialized      |
| F sqrt      | F each               |
| F tan       | F each_element       |
| F tanh      | F elements           |
| F tgamma    | F elementtocdata     |
| F trunc     | F empty              |
| F y0        | D entities           |
| F y1        | F erase              |
| F yn        | F errorhandler       |
|             | F escaped            |

xml

table

|                         |                       |
|-------------------------|-----------------------|
| F expand                | F package             |
| F fillin                | F parent              |
| F filter                | U parsedentitylpeg    |
| F first                 | F popmatch            |
| F found                 | F position            |
| F getbuffer             | D privatecodes        |
| F gethandlers           | F privatetoken        |
| F gethandlersfunction   | F process             |
| F include               | F process_attributes  |
| F inclusion             | F process_elements    |
| F inclusions            | F processattributes   |
| F index                 | F pure                |
| F inheritattributes     | F pushmatch           |
| F inheritedconvert      | F raw                 |
| F inject                | F registerentity      |
| F inject_element        | F registerns          |
| F inject_element_after  | F reindex             |
| F inject_element_before | F remap_name          |
| F injectafter           | F remap_namespace     |
| F injectbefore          | F remap_tag           |
| F insert                | F remapname           |
| F insert_element        | F remapnamespace      |
| F insert_element_after  | F remaptag            |
| F insert_element_before | F rename              |
| F insertafter           | F renamespace         |
| F insertbefore          | U reparsedentitylpeg  |
| F insertcdata           | F replace             |
| F insertcomment         | F replace_element     |
| F inspect               | F resetinjectors      |
| F is_valid              | F resolvns            |
| F kind                  | F root                |
| F last                  | F save                |
| F lastmatch             | F selection           |
| F load                  | F separate            |
| F lpath                 | F serialize           |
| F lpathcached           | F serializetotext     |
| F lpathcalls            | F setcdata            |
| F lshow                 | F setcomment          |
| F makestandalone        | F sethandlersfunction |
| F match                 | F setinjectors        |
| F name                  | F setproperty         |
| F newhandlers           | F settings            |
| F nodesettostring       | D specialcodes        |
| F originalload          | F sprint              |

F string  
F strip  
F strip\_whitespace  
F stripelement  
F stripleadingspaces  
F table  
F text  
F textonly  
F texttocdata  
F tocdata  
F toelement  
F toString  
F totable  
F toxml  
F tprint  
F traverse  
F unescaped  
U unescapedentitylpeg  
F unprivatized  
F unspecialized  
F wipe  
F withelement  
F withelements  
F wrap

**xpcall** function  
**xzip** table

F adler32  
F compress  
F compresssize  
F crc32  
F decompress  
F decompresssize

**zbuffer** table

F bounds  
F composite  
F crop  
F edgepoint  
F flatten  
F get  
F getcolor  
F getdepth

F getnormal  
F getopacity  
F getsize  
F implicit  
F iszbuffer  
F meshmesh  
F new  
F points  
F process  
F project  
F resolve  
F set  
F setcolor  
F setdepth  
F setnormal  
F setopacity  
F setup  
F smoothen  
F stipple\_0  
F stipple\_1  
F stipple\_2  
F stipple\_3  
F stipple\_4  
F stipple\_setup  
F tobytes  
F toString  
F totable  
F transform  
F trianglebounds  
F triangles  
F type

**zip** table

F closearchive  
F openarchive

**zlib** table

F adler32  
F compress  
F compresssize  
F crc32  
F decompress  
F decompresssize

# globals (context)

|                            |          |                    |       |
|----------------------------|----------|--------------------|-------|
| <b>CONTEXTLMTXMODE</b>     | number   | D values           |       |
| <b>LUAFORMAT</b>           | number   | <b>backends</b>    | table |
| <b>LUAMAJORVERSION</b>     | number   | F closeout         |       |
| <b>LUAMINORVERSION</b>     | number   | S current          |       |
| <b>LUATEXENGINE</b>        | string   | F getcallbackstate |       |
| <b>LUATEXFORMATID</b>      | number   | F initialize       |       |
| <b>LUATEXFUNCTIONALITY</b> | number   | F latelua          |       |
| <b>LUATEXVERBOSE</b>       | string   | F nothing          |       |
| <b>LUATEXVERSION</b>       | number   | F openout          |       |
| <b>LUAVERSION</b>          | number   | F setencryption    |       |
| <b>MP</b>                  | function | F writeout         |       |
| <b>SAVEDREQUIRE</b>        | function | <b>basexx</b>      | table |
| <b>aes</b>                 | table    | F decode16         |       |
| F decode                   |          | F decode64         |       |
| F encode                   |          | F decode85         |       |
| F random                   |          | F decodeLZW        |       |
| <b>arg</b>                 | table    | F decodeRL         |       |
| <b>assert</b>              | function | F encode16         |       |
| <b>attributes</b>          | table    | F encode64         |       |
| F applyoverloads           |          | F encode85         |       |
| F checkvalues              |          | F encodeLZW        |       |
| D counts                   |          | F encodeRL         |       |
| F define                   |          | <b>bibtex</b>      | table |
| F getvalue                 |          | <b>bit32</b>       | table |
| F getvalues                |          | F arshift          |       |
| F hasvalues                |          | F band             |       |
| D list                     |          | F bnot             |       |
| F markasoverload           |          | F bor              |       |
| D names                    |          | F btest            |       |
| D numbers                  |          | F bxor             |       |
| F ofnode                   |          | F extract          |       |
| F private                  |          | F lrotate          |       |
| F public                   |          | F lshift           |       |
| F registervalue            |          | F replace          |       |
| F restore                  |          | F rrotate          |       |
| F save                     |          | F rshift           |       |
| F setcleaner               |          | <b>bitset</b>      | table |
| F showcurrent              |          | F asstring         |       |
| F system                   |          | F get              |       |
| F tooverloads              |          | F new              |       |
| N unsetvalue               |          | F reset            |       |

|                   |              |                            |              |
|-------------------|--------------|----------------------------|--------------|
| F set             |              | F parpassidentifier        |              |
| F totable         |              | D passnames                |              |
| F traverse        |              | F registerpasspasscallback |              |
| F wipe            |              | <b>bytemap</b>             | <b>table</b> |
| <b>blobs</b>      | <b>table</b> | F bounds                   |              |
| F append          |              | F clip                     |              |
| F dimensions      |              | F copy                     |              |
| F dispose         |              | F dimensions               |              |
| F new             |              | F domain                   |              |
| F pack            |              | F downgrade                |              |
| F strdp           |              | F downsample               |              |
| F strhd           |              | F getbyte                  |              |
| F strht           |              | F getbytes                 |              |
| F strwd           |              | F getvalue                 |              |
| F tohpack         |              | F hasbytegray              |              |
| F tonodes         |              | F hasbyterange             |              |
| F tovpack         |              | F hasbytergb               |              |
| F write           |              | F new                      |              |
| <b>boolean</b>    | <b>table</b> | F newdomain                |              |
| F tocontext       |              | F process                  |              |
| F tonumber        |              | F reduce                   |              |
| <b>buffers</b>    | <b>table</b> | F reset                    |              |
| F append          |              | F setgray                  |              |
| F assign          |              | F setgrayadd               |              |
| F collectcontent  |              | F setgraymin               |              |
| F empty           |              | F setrgb                   |              |
| F erase           |              | F slicegray                |              |
| F exists          |              | F slicerange               |              |
| F get             |              | F slicergb                 |              |
| F getcontent      |              | <b>caches</b>              | <b>table</b> |
| F getctxlua       |              | S base                     |              |
| F getlines        |              | F collapsecontent          |              |
| F getmkvi         |              | F configfiles              |              |
| F gettex          |              | F contentstate             |              |
| F loadcontent     |              | F getfirstreadablefile     |              |
| F prepend         |              | F getreadablepaths         |              |
| F raw             |              | F getwritablepath          |              |
| F run             |              | F hashed                   |              |
| F samplefile      |              | F is_writable              |              |
| F splitsamplefile |              | F loadcontent              |              |
| F undent          |              | F loaddata                 |              |
| <b>builders</b>   | <b>table</b> | S more                     |              |
| F checkparcontext |              | F savecontent              |              |
| F checksidefloat  |              | F savedata                 |              |

|                        |                 |                        |
|------------------------|-----------------|------------------------|
| F setfirstwritablefile |                 | D collapsed            |
| F setluaname           |                 | D combined             |
| F treehash             |                 | F contextname          |
| F usedpaths            |                 | D csletters            |
| <b>callback</b>        | <b>table</b>    | D data                 |
| F find                 |                 | D decomposed           |
| F getindex             |                 | F description          |
| F getoptions           |                 | D descriptions         |
| F getoptionvalues      |                 | D detailtags           |
| F getstate             |                 | F emojiized            |
| F getstatevalues       |                 | D encodes              |
| F known                |                 | D entities             |
| F list                 |                 | D fallbacks            |
| F names                |                 | D filters              |
| F register             |                 | F fromnumber           |
| F setoptions           |                 | D fschars              |
| F setstate             |                 | D fscodes              |
| F testonly             |                 | F getrange             |
| F usage                |                 | D graphemes            |
| <b>callbacks</b>       | <b>table</b>    | D hangul               |
| F freeze               |                 | F initialize           |
| F getcomment           |                 | D is_character         |
| F getstates            |                 | D is_command           |
| F known                |                 | D is_hyphenator        |
| F optimizer            |                 | D is_letter            |
| F pop                  |                 | D is_mark              |
| F push                 |                 | D is_nothing           |
| F register             |                 | D is_punctuation       |
| F report               |                 | D is_spacing           |
| <b>catcodes</b>        | <b>table</b>    | D is_symbol            |
| D names                |                 | D lchars               |
| D numbers              |                 | F lccode               |
| F register             |                 | D lccodes              |
| <b>characterkern</b>   | <b>function</b> | F lettered             |
| <b>characters</b>      | <b>table</b>    | D lhash                |
| F addcharacternames    |                 | D linebreaks           |
| F adobename            |                 | F lower                |
| D bidi                 |                 | D mathlists            |
| F blockrange           |                 | D otfscripts           |
| D blocks               |                 | D ranges               |
| D can_have_space       |                 | F registerentities     |
| D categories           |                 | F remap_hangul_syllabe |
| F category             |                 | F setactivecatcodes    |
| D categorytags         |                 | F setlettercatcodes    |

F setothercatcodes  
F shape  
F shaped  
D shash  
D shchars  
D shcodes  
F showstring  
D specialchars  
D specials  
D synonyms  
F tonumber  
D ucchars  
F uccode  
D uccodes  
D uhash  
F unicodechar  
F upper  
D verbosemarks

**chemistry** table

F component  
F define  
D definitions  
S format  
F inlinechemical  
S instance  
S method  
F molecule  
U moleculeparser  
F start  
F stop  
F undefine

**collectgarbage** function

**commands** table

F Alphabetic  
F MPLIBconvertfollowtext  
F MPLIBconvertoutlinetext  
F MPc  
F MPd  
F MPfromhash  
F MPH  
F MPLl  
F MPLr  
F MPLs  
F MPn

F MPP  
F MPpdata  
F MPplus  
F MPpos  
F MPr  
F MPrest  
F MPrs  
F MPul  
F MPur  
F MPw  
F MPwhd  
F MPx  
F MPxy  
F MPxywhd  
F MPy  
F Romannumerals  
F actualday  
F actualmonth  
F actualyear  
F adaptfontfeature  
F adaptivecheckbox  
F addbtxentry  
F addcounter  
F adddefaultsuffix  
F addfeature  
F addfontpath  
F addgrapheme  
F addlinenumbers  
F addlinklistelement  
F addreplacements  
F addreplacementslist  
F addrivers  
F addtocolumnset  
F addtocolumnsetmvl  
F addtojavascriptpreamble  
F addtolist  
F align\_point\_delta  
F allinputpaths  
F alphabetic  
F analysefloatmethod  
F analyzeitemgroup  
F analyzelist  
F analyzelocalanchors  
F analyzeregister

|                             |                         |
|-----------------------------|-------------------------|
| F analyzerotate             | F boxdir                |
| F analyzeupcomingitemgroup  | F boxline               |
| F applypattern              | F boxlinedp             |
| F applytobox                | F boxlineht             |
| F applytofirstcharacter     | F boxlineil             |
| F arraycompare              | F boxlinein             |
| F arrayequals               | F boxlineir             |
| F arraymaxvalue             | F boxlineih             |
| F arrayminvalue             | F boxlineip             |
| F arraysize                 | F boxlines              |
| F arrayvalue                | F boxlinemaxdp          |
| F ascender                  | F boxlinemaxht          |
| F askedreference            | F boxlinemaxwd          |
| F assignbuffer              | F boxlinend             |
| F async                     | F boxlinenh             |
| F attachinsertion           | F boxlinew              |
| F attachinsertions          | F boxlinerh             |
| F atwordboundary            | F boxlinerp             |
| F autofinishstructurelevels | F boxliners             |
| F autoinsertnextspace       | F boxlines              |
| F automigrationcodestring   | F boxlinewd             |
| F autonextstructurelevel    | F boxoptioncodestring   |
| F autorule                  | F boxrangedp            |
| F autosetups                | F boxrangeht            |
| F autostarttext             | F boxrangewd            |
| F autostoptext              | F boxtostring           |
| F badnessmodecodestring     | F bposcolumn            |
| F balanceshapeextra         | F bposcolumnregistered  |
| F benchmarktimer            | F bs                    |
| F bf                        | F btxabbreviatedjournal |
| F bi                        | F btxaddentry           |
| F bitmapimage               | F btxaddjournal         |
| F bitwise                   | F btxauthor             |
| F bitwiseand                | F btxauthorfield        |
| F bitwiseflip               | F btxauthorregister     |
| F bitwisenil                | F btxcmdstring          |
| F bitwisenot                | F btxcollectlistentries |
| F bitwiseor                 | F btxcurrentfirstnames  |
| F bitwiseset                | F btxcurrentinitials    |
| F bitwiseshift              | F btxcurrentjuniors     |
| F bitwisexor                | F btxcurrentsurnames    |
| F blockcolumnset            | F btxcurrentvons        |
| F blockligatures            | F btxdetail             |
| F boolcase                  | F btxdirect             |

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|-----------------------------|------------------------------|
| F btxdoif                   | F build_page_before_shipout  |
| F btxdoifelse               | F build_page_setup           |
| F btxdoifelsecitedone       | F capheight                  |
| F btxdoifelsecombiinlist    | F charactercontrolcodestring |
| F btxdoifelsematches        | F chardescription            |
| F btxdoifelsesameasprevious | F checkcolumnset             |
| F btxdoifelseuservariable   | F checkcolumnsetmvl          |
| F btxdoifnot                | F checkcountersetup          |
| F btxentrytobuffer          | F checkedconversion          |
| F btxentrytostring          | F checkedemojii              |
| F btxexpandedjournal        | F checkedpagefloat           |
| F btxfetchlistentries       | F checkinjector              |
| F btxfield                  | F checkinterfacechain        |
| F btxfirstofrange           | F checkmarkedpages           |
| F btxflush                  | F checknesting               |
| F btxflushlistcombi         | F checkspacingavailable      |
| F btxflushlistentry         | F checkstrutdepth            |
| F btxflushlisttag           | F chemicalcomponent          |
| F btxflushmarked            | F chinesenumerals            |
| F btxflushpages             | F chr                        |
| F btxhandlecite             | F classoptioncodestring      |
| F btxhandlenocite           | F cleancolumnset             |
| F btxlastofrange            | F cleanfontname              |
| F btxlistvariant            | F cleanupattributes          |
| F btxloaddefinitionfile     | F cleanupbox                 |
| F btxloadjournallist        | F cleanuplayers              |
| F btxloadreplacementfile    | F clonefield                 |
| F btxmissing                | F closein                    |
| F btxoneorrange             | F closeout                   |
| F btxpreparelistentries     | F codedef                    |
| F btxremapauthor            | F collectedmath              |
| F btxsavedataset            | F collectfloat               |
| F btxsavejournallist        | F collecthelp                |
| F btxsetdataset             | F columnsetbalancefirst      |
| F btxsetentry               | F columnsetbalancelast       |
| F btxsetregister            | F columnsetbalancepage       |
| F btxsetspecification       | F columnsetcolumnwidth       |
| F btxshortcut               | F columnsetdisablewide       |
| F btxshowauthorremapping    | F columnsetenablewide        |
| F btxsingularorplural       | F columnsetgoto              |
| F btxtoregister             | F columnsethascontent        |
| F btxusedataset             | F columnsethspan             |
| F btxuservariable           | F columnsetlastfuture        |
| F build_page_after_shipout  | F columnsetlastmvl           |

|                                  |                             |
|----------------------------------|-----------------------------|
| F columnsetlimit                 | F currentdesignsize         |
| F columnsetnoto                  | F currentenvironment        |
| F columnsetresetdirect           | F currentfontinstancespec   |
| F columnsetresetshapeextra       | F currentposthyphenchar     |
| F columnsetreshape               | F currentprehyphenchar      |
| F columnsetsblockrows            | F currentproduct            |
| F columnsetsetshapeextra         | F currentproject            |
| F columnsetshape                 | F currentsectiontolist      |
| F columnsetshapebalancecheck     | F datasetsize               |
| F columnsetshapebalanceextend    | F datasetvariable           |
| F columnsetshapecolumn           | F day                       |
| F columnsetshapecount            | F daynem                    |
| F columnsetshapeindex            | F dayname                   |
| F columnsetshapepage             | F decimals                  |
| F columnsetshapersetbalancerange | F decrementcounter          |
| F columnsetshapslots             | F decrementsubcounter       |
| F columnsetshapspread            | F deferredenhancelist       |
| F columnsetshapevsize            | F deferredenhancereference  |
| F columnsetshapeworst            | F deferredenhanceregister   |
| F columnsetshowgrid              | F defineaccents             |
| F columnsetshowshape             | F defineattribute           |
| F columnsetshowtracedgrid        | F defineboundary            |
| F columnsetstate                 | F definebreakpoint          |
| F columnsetstatus                | F definebreakpoints         |
| F combineglyphs                  | F definecharacterspacing    |
| F component                      | F definechemical            |
| F concatcommalist                | F definecolumnset           |
| F consultfloat                   | F defineconversion          |
| F continueifinputfile            | F definecounter             |
| F convertbtxdatasettoxml         | F definedlayoutcomponent    |
| F converteddimen                 | F definefallbackfamily      |
| F convertmpstopdf                | F definefield               |
| F copyboxfromcache               | F definefieldset            |
| F copyboxline                    | F definefilefallback        |
| F copyposition                   | F definefilesynonym         |
| F cos                            | F definefont_one            |
| F cosd                           | F definefont_two            |
| F ctxfunction                    | F definefontcolorpalette    |
| F ctxluamatch                    | F definefontfamily          |
| F ctxluamatchfile                | F definefontfamilypreset    |
| F ctxresetter                    | F definefontfeature         |
| F ctxscanner                     | F definefontscriptset       |
| F currentcomponent               | F definefontsolution        |
| F currentdate                    | F definehyphenationfeatures |

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|------------------------------|---------------------------------|
| F defineinsertion            | F disablespellchecking          |
| F defineintermediatecolor    | F disablestatetriggering        |
| F definelabcolorglobal       | F disablestream                 |
| F definelabcolorlocal        | F disabletrackers               |
| F definelabels               | F discardfromlist               |
| F definelanguage             | F discoptioncodestring          |
| F definelinkedlist           | F disposeboxesincache           |
| F definemathpreset           | F disposeluatable               |
| F definemultitonecolorglobal | F doanalyzeframedbox            |
| F definenamespace            | F doif                          |
| F definenote                 | F doifcounter                   |
| F defineparallel             | F doifelse                      |
| F defineparbuilder           | F doifelseblack                 |
| F defineprocesscolordummy    | F doifelseboxincache            |
| F defineprocesscolorglobal   | F doifelsebuffer                |
| F defineprocesscolorlocal    | F doifelsebufferempty           |
| F defineprogram              | F doifelsecharinfont            |
| F definereference            | F doifelseconverter             |
| F defineregister             | F doifelsecounter               |
| F definesectionlevels        | F doifelsecounteractive         |
| F definespotcolorglobal      | F doifelsecurrentfonthasfeature |
| F definestructureblock       | F doifelseedimenstring          |
| F definestructureset         | F doifelseedrawingblack         |
| F definesubcolumnset         | F doifelsefieldcategory         |
| F definetransparency         | F doifelsefieldset              |
| F definetransparencyglobal   | F doifelsefiledefined           |
| F definetypeface             | F doifelsefileexist             |
| F defineviewerlayer          | F doifelsefirstchar             |
| F delayedcolumnsetsheet      | F doifelsefirstsectionpage      |
| F depthnumber                | F doifelsefontfeature           |
| F depthofstring              | F doifelsefontpresent           |
| F descender                  | F doifelseindented              |
| F detachinsertions           | F doifelseinelement             |
| F diagnostic                 | F doifelseinputfile             |
| F digits_normal              | F doifelseleapyear              |
| F digits_reverse             | F doifselisthasentry            |
| F directboxfromcache         | F doifselisthasnumber           |
| F disableautofontscript      | F doifselisthaspage             |
| F disablecollectingmath      | F doifselisthastitle            |
| F disabledirectives          | F doifelsemarkedcontent         |
| F disableexperiments         | F doifelsemarkedpage            |
| F disablejobsave             | F doifelsemessage               |
| F disableparbuilder          | F doifelsenoteonsamepage        |
| F disableregime              | F doifelseobjectfound           |

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|---------------------------------|------------------------------|
| F doifelseobjectreferencefound  | F dosaveposition             |
| F doifelseolderversion          | F dosavepositionplus         |
| F doifelseoverlapping           | F dosavepositionwhd          |
| F doifelseparallel              | F dosetposition              |
| F doifelseparentfile            | F dosetpositionbox           |
| F doifelsepathexist             | F dosetpositionplus          |
| F doifelsependingpagecontent    | F dosetpositionstrut         |
| F doifelseposition              | F dosetpositionstrutkind     |
| F doifelsepositiononpage        | F dosetpositionwhd           |
| F doifelsepositionsonsamepage   | F dostarttextfile            |
| F doifelsepositionsonthispage   | F dostoptextfile             |
| F doifelsepositionsused         | F doublescriptmodecodestring |
| F doifelserangeonpage           | F droptablegroup             |
| F doifelsereference             | F elapsedsteptime            |
| F doifelsereferencechecked      | F elapsedtime                |
| F doifelsereferenced            | F embedimagefromstore        |
| F doifelserighttoleftinbox      | F enablealignmentcharacter   |
| F doifelsesame                  | F enablealignskips           |
| F doifelsesomething             | F enableasciimode            |
| F doifelsespaces                | F enableautofences           |
| F doifelsestackedfloats         | F enableautofontscript       |
| F doifelsestructureblockempty   | F enablebackgroundalign      |
| F doifelsesynonymshown          | F enablebackgroundboxes      |
| F doifelsesynonymused           | F enablecollectingmath       |
| F doifelse>taggednoteonsamepage | F enablecolor                |
| F doifelseurldefined            | F enablecolorintents         |
| F doifelseutfmathaccent         | F enablecrlf                 |
| F doifelseutfmathfiller         | F enabledirectives           |
| F doifelseutfmathlimop          | F enabledriver               |
| F doifelsevalidhashedfiles      | F enableexperiments          |
| F doifelsevisualizer            | F enablefontcolorchemes      |
| F doifmarkedpage                | F enablehidecontent          |
| F doifnot                       | F enablemathalignrelocate    |
| F doifnotcounter                | F enablematrixornaments      |
| F doifnotecontent               | F enablematrixrules          |
| F doifnotsame                   | F enableparbuilder           |
| F doifnotthing                  | F enableregime               |
| F doifposition                  | F enablescriptunstacking     |
| F doifsame                      | F enablesidefloatchecker     |
| F doifsomething                 | F enablespellchecking        |
| F doifunknownfontfeature        | F enablestacking             |
| F domainattribute               | F enablestatetriggering      |
| F doreshapeframedbox            | F enablestream               |
| F doresyncframedbox             | F enableswapping             |

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|---------------------------------|-----------------------------|
| F enabletighen                  | F firstsectionpage          |
| F enabletrackers                | F firstsubcountervalue      |
| F enabletransparency            | F flagcodestring            |
| F enableutf                     | F flushcolumnsetareas       |
| F enhancelinkedlist             | F flushcolumnsetcolumn      |
| F enhancelist                   | F flushfloat                |
| F enhanceregister               | F flushlabeledfloat         |
| F enhancesynonym                | F flushnoterange            |
| F environment                   | F flushnotes                |
| F eposcolumn                    | F flushpageblocks           |
| F eposcolumnregistered          | F flushpageinjectionsafter  |
| F erasebuffer                   | F flushpageinjectionsbefore |
| F execute                       | F flushpostponedblocks      |
| F exportbox                     | F flushpostponednotes       |
| F exportformdata                | F flushstream               |
| F exportreferences              | F flushstreamcopy           |
| F expression                    | F fontchar                  |
| F extendregister                | F fontcharbyindex           |
| F extendregisterlate            | F fontcollectionclone       |
| F extensiblecode                | F fontcollectiondefine      |
| F fakeword                      | F fontcollectionprepare     |
| F featureattribute              | F fontcollectionregister    |
| F feedback                      | F fontcollectionreport      |
| F fetchlanguagetext             | F fontcollectionreset       |
| F fetchmultipar                 | F fontlookupgetkey          |
| F fetchposboxes                 | F fontlookupgetkeyofindex   |
| F fetchterminaldata             | F fontlookupinitialize      |
| F figure_flush_registered_pages | F fontlookupnofound         |
| F figure_mergegoodies           | F forceendjob               |
| F figure_nof_registered_pages   | F forcepageflush            |
| F figure_register_page          | F forcequitjob              |
| F figuresetdimensions           | F forcestrutdepth           |
| F filebasename                  | F format                    |
| F filedirname                   | F formatcolor               |
| F filenameonly                  | F formatgray                |
| F filesuffix                    | F formatluminance           |
| F filterdefaultreference        | F formatluminanceratio      |
| F filterreference               | F formatone                 |
| F finalizeobjectbox             | F framedoutline             |
| F finalizeshipoutbox            | F from                      |
| F findregisterinternal          | F frozenparcodestring       |
| F finishcolumnsetflush          | F frule                     |
| F finishexport                  | F getMPdata                 |
| F firstinset                    | F getbidimode               |

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|----------------------------------|------------------------------|
| F getbodyfontsizes               | F getnotestorecount          |
| F getboxcountfromcache           | F getnotestoreflushed        |
| F getboxdpfromcache              | F getobjectdimensions        |
| F getboxfromcache                | F getobjectreference         |
| F getboxhtdpfromcache            | F getobjectreferencepage     |
| F getboxhtfromcache              | F getparshape                |
| F getboxwdfromcache              | F getparwrapper              |
| F getbuffer                      | F getprivatechar             |
| F getbuffercontent               | F getprivateglyphslot        |
| F getbufferctxlua                | F getprivatemathchar         |
| F getbuffermkvi                  | F getprivateslot             |
| F getbuffertext                  | F getprogram                 |
| F getcharactercasingcategory     | F getrandomdimen             |
| F getclubpenalties               | F getrandomfloat             |
| F getcurrentprefixspec           | F getrandomnumber            |
| F getcurrentreferencelabel       | F getrandomseed              |
| F getcurrentreferencemetadata    | F getreadfilename            |
| F getdefaultfieldvalue           | F getreferencesectionnumber  |
| F getdisplaywidowpenalties       | F getrivers                  |
| F getdocumentargument            | F getsetupstring             |
| F getdocumentfilename            | F getshapeparameter          |
| F getfieldcategory               | F getsomefullstructurenumber |
| F getfile                        | F getsomestructurenumber     |
| F getfirstcharacter              | F getspecificstructuretitle  |
| F getfloatvariable               | F getstructurelevel          |
| F getfromluatable                | F getstructurenumber         |
| F getfullstructurenumber         | F getsubstring               |
| F getinterlinepenalties          | F getsynchronizemarking      |
| F getinternalcachedlistreference | F geturl                     |
| F getinternallistreference       | F getvisual                  |
| F getinternalorderreference      | F getwidowpenalties          |
| F getmathblobindex               | F globalpopmacro             |
| F getmathblobmapping             | F globalpushmacro            |
| F getmathcharone                 | F gluetoinesinbox            |
| F getmathchartwo                 | F glyphoptioncodestring      |
| F getmathmathblob                | F gobblenestd                |
| F getmathtextblob                | F gotocolumnsetslot          |
| F getmathvariant                 | F grabbuffer                 |
| F getmessage                     | F groupcodestring            |
| F getmpextensions                | F groupsetgroup              |
| F getnaturaldimensions           | F grph_nodes_initialize      |
| F getnaturalwd                   | F grph_nodes_register        |
| F getnofpreviouslines            | F grph_nodes_reset           |
| F getnotestate                   | F grph_nodes_resolve         |

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|-------------------------|------------------------------|
| F handlemathhang        | F inhibitprimitive           |
| F hboxtovbox            | F initializeexport           |
| F heightofstring        | F initializejob              |
| F helpaction            | F initializemathcollapsing   |
| F helpreference         | F initializemathfencing      |
| F hour                  | F initializemathitalics      |
| F hpackbox              | F initializemathkernpairs    |
| F hpackedbox            | F initializemathnumbers      |
| F hsplit                | F initializemathspacing      |
| F hyphenateddigits      | F initializestream           |
| F hyphenatedlist        | F initializetexdirectives    |
| F hyphenationcodestring | F initializetexexperiments   |
| F ic                    | F initializetextrackers      |
| F idxfromluatable       | F injectcurrentreference     |
| F if_common             | F injectcurrentreferencehtdp |
| F ifallmodes            | F injectdisable              |
| F ifbitwiseand          | F injectnowhite              |
| F ifblobindexdone       | F injectreference            |
| F ifboxhaslist          | F injectvpenalty             |
| F ifcommon              | F injectvskip                |
| F ifeof                 | F injectvspacing             |
| F ifgluelineinbox       | F injectzerobaselineskip     |
| F ifinset               | F inlinechemical             |
| F iflua                 | F inputfilebarename          |
| F ifmode                | F inputfilename              |
| F ifmodes               | F inputfilerealsuffix        |
| F ifmvl                 | F inputfilesuffix            |
| F ifpositunum           | F insertattachment           |
| F ifsetups              | F insertcategorycodestring   |
| F ifsystemmode          | F insertcomment              |
| F iftext                | F insertfield                |
| F ifxml                 | F insertionnumber            |
| F ifxmlatt              | F insertoptioncodestring     |
| F ifxmlattempty         | F insertrenderingwindow      |
| F ifxmlempty            | F inspectluatable            |
| F ifxmlselfempty        | F installedlanguages         |
| F ifxmltext             | F installtexdirective        |
| F ignorefile            | F installtexexperiment       |
| F ignoretagsinexport    | F installtextracker          |
| F immediatemessage      | F interceptsamepagecontent   |
| F includesvgbuffer      | F it                         |
| F includesvgfile        | F jobfilefullname            |
| F incrementcounter      | F jobfilename                |
| F incrementsubcounter   | F jobfilesuffix              |

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|-------------------------------|----------------------------|
| F jobposd                     | F listrawrealpage          |
| F jobposh                     | F listrawuserpage          |
| F jobposp                     | F listsigncodestring       |
| F jobposw                     | F listsize                 |
| F jobposx                     | F listtitle                |
| F jobposy                     | F listuserdata             |
| F languagecharwidth           | F lmt_parameters_define    |
| F languagenumber              | F lmt_parameters_preset    |
| F lastblobindex               | F lmt_parameters_reset     |
| F lastnodeequals              | F loadcldfile              |
| F lastnodeid                  | F loadcldfileonce          |
| F lastnodeidstring            | F loadexamodes             |
| F lastnodesubtypestring       | F loadfontgoodies          |
| F lastparwrapper              | F loadlibrary              |
| F lastrpos                    | F loadluafile              |
| F lastsavedboxresourceindex   | F loadluafileonce          |
| F lastsavedimageresourceindex | F loadluamodule            |
| F lastsavedimageresourcepages | F loadmapfile              |
| F lastsectionpage             | F loadmapline              |
| F lastsubcountervalue         | F loadspellchecklist       |
| F lastunitstring              | F loadtexfile              |
| F lastxpos                    | F loadtexfileonce          |
| F lastypos                    | F loadtypescriptfile       |
| F lateindent                  | F loadvisualizer           |
| F latelua                     | F loadxmlfile              |
| F lateundent                  | F loadxmlfileonce          |
| F lchexnumber                 | F localanchorx             |
| F lchexnumbers                | F localanchory             |
| F leapyear                    | F localboxindent           |
| F limited                     | F localboxindex            |
| F linebuffering               | F localboxlefthang         |
| F linedir                     | F localboxleftoffset       |
| F lineprofilebox              | F localboxleftskip         |
| F linesegment                 | F localboxlinenumber       |
| F listanchorcodestring        | F localboxlinewidth        |
| F listbookmark                | F localboxlocalwidth       |
| F listexternal                | F localboxmarkonce         |
| F listgroupindex              | F localboxovershoot        |
| F listlabel                   | F localboxparfillleftskip  |
| F listlocation                | F localboxparfillrightskip |
| F listnamespaces              | F localboxparinitleftskip  |
| F listprefixednumber          | F localboxparinitrightskip |
| F listprefixedpage            | F localboxprogress         |
| F listrawnnumber              | F localboxrighthang        |

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|---------------------------|------------------------------|
| F localboxrightoffset     | F message                    |
| F localboxrightskip       | F metapostescaped            |
| F localpopmacro           | F metapostformatted          |
| F localpushmacro          | F metapostgraphformat        |
| F locatefilepath          | F minute                     |
| F loopcs                  | F mixcleanup                 |
| F loopcsn                 | F mixfinalize                |
| F lousiness               | F mixflushlist               |
| F luacardinal             | F mixflushrest               |
| F luacount                | F mixgetsplit                |
| F luadimen                | F mixsetsplit                |
| F luaexpression           | F mixstate                   |
| F luafloat                | F modecodestring             |
| F luainteger              | F molecule                   |
| F luanumber               | F month                      |
| F luarandom               | F monthnmn                   |
| F luascript               | F monthname                  |
| F luathread               | F mpblobtext                 |
| F lxmlid                  | F mpcolor                    |
| F manipulated             | F mpgetblob                  |
| F markblobindexdone       | F mpgettext                  |
| F markcontent             | F mpgraphic                  |
| F markedpageparameter     | F mpgraphictexttoks          |
| F markedpages             | F mpoptions                  |
| F markingnumber           | F mpoutlinetoks              |
| F markingtitle            | F mppopvariables             |
| F markinjector            | F mppushvariables            |
| F markpage                | F mprunset                   |
| F markregionbox           | F mpruntab                   |
| F markregionboxcorrected  | F mprunvar                   |
| F markregionboxtagged     | F mpsetclippath              |
| F markregionboxtaggedkind | F mpsetoutercolor            |
| F markregionboxtaggedn    | F mpsetsxsy                  |
| F markvisualfonts         | F mpsettext                  |
| F mathclassvalue          | F mptexget                   |
| F mathcontrolcodestring   | F mptexreset                 |
| F mathhorizontalcode      | F mptexset                   |
| F mathoptioncodestring    | F mptexsetfrombuffer         |
| F mathrenderset           | F mptexttoks                 |
| F mathstrutcode           | F mvloptioncodestring        |
| F mathvariantcode         | F namedstructureuservariable |
| F mathvariantcount        | F namedstructurevariable     |
| F mathvariantslot         | F naturalwd                  |
| F maxbufferwidth          | F negatedcolorcomponent      |

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|----------------------------|-------------------------------|
| F newarray                 | F overloadsattribute          |
| F newhashedtable           | F overloaduppercase           |
| F newindexedtable          | F pageblockrealpage           |
| F newluatable              | F pageofinternal              |
| F newparwrapper            | F pageoverflow                |
| F newrepeatablerandom      | F pagestaterealpage           |
| F newstacking              | F pagestaterealpageorder      |
| F nextparallel             | F paragraphfillmodecodestring |
| F nextsubcountervalue      | F paragraphoptioncodestring   |
| F nodimen                  | F parcontextcodestring        |
| F nofbufferlines           | F pardir                      |
| F nofconversions           | F parpasscallback             |
| F nofdays                  | F parpassidentifier           |
| F nofdetachedinsertions    | F parpos                      |
| F noflinesinbox            | F partriggercodestring        |
| F nofmathvariants          | F pdfbackendcurrentresources  |
| F nofstackedfloats         | F pdfbackendsetcatalog        |
| F nologbuffering           | F pdfbackendsetcolorspace     |
| F normalizecodestring      | F pdfbackendsetextgstate      |
| F normalizedbodyfontsize   | F pdfbackendsetinfo           |
| F normalizeparcodestring   | F pdfbackendsetname           |
| F nospacesmodecodestring   | F pdfbackendsetpageattribute  |
| F notedeltapage            | F pdfbackendsetpagesresource  |
| F noteinternal             | F pdfbackendsetpagesattribute |
| F notelistindex            | F pdfbackendsetpattern        |
| F noteprefixednumber       | F pdfbackendsetshade          |
| F notetitle                | F pdfcolor                    |
| F ntb_split_section_check  | F pdfextension                |
| F ntb_split_section_fetch  | F pdffeedback                 |
| F ntb_split_section_locate | F pdflastobj                  |
| F ntb_split_section_reset  | F pdfliteral                  |
| F ntimes                   | F pdfobj                      |
| F number                   | F pdfrefobj                   |
| F numbers                  | F pdfsetuserdata              |
| F objectreference          | F pdfvariable                 |
| F objectreferencepage      | F percentageof                |
| F octnumber                | F pfabs                       |
| F openin                   | F pfacos                      |
| F openout                  | F pfacosh                     |
| F operatingsystem          | F pfasin                      |
| F ordinal                  | F pfasinh                     |
| F outputfilename           | F pfatan                      |
| F overloadbookmark         | F pfatanh                     |
| F overloadlowercase        | F pfatantwo                   |

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|-------------------------|-------------------------------|
| F pfceil                | F presetcolumnsetsheets       |
| F pfcos                 | F presetcolumnsetspreadsheets |
| F pfcosh                | F presetmathematics           |
| F pfdeg                 | F presetmathfontalternate     |
| F pfexp                 | F presetsymbollist            |
| F pffloor               | F previoussubcountervalue     |
| F pflog                 | F privatecharacter            |
| F pfmod                 | F privatecharactercode        |
| F pfpow                 | F processbodyfontsizes        |
| F pfrad                 | F processbuffer               |
| F pfrem                 | F processcollectedmath        |
| F pfround               | F processedfile               |
| F pfsin                 | F processedfiles              |
| F pfsinh                | F processfile                 |
| F pfsqrt                | F processfilemany             |
| F pftan                 | F processfilenone             |
| F pftanh                | F processfileonce             |
| F pgfxcolorspec         | F processjob                  |
| F pickupbuffer          | F processlist                 |
| F pickupmarkedcontent   | F processregister             |
| F pickuppunctuation     | F processsplit                |
| F placeparallel         | F processsynonyms             |
| F popfloat              | F product                     |
| F pophyphenation        | F profilebox                  |
| F poplist               | F profilemacro                |
| F poplocalanchors       | F project                     |
| F poplogfile            | F pruneboxesincache           |
| F popparagraphtweak     | F purefontname                |
| F poppath               | F pushfloat                   |
| F poprandomseed         | F pushhyphenation             |
| F popreferenceprefix    | F pushlist                    |
| F popregime             | F pushlocalanchors            |
| F poprunstate           | F pushlogfile                 |
| F popsectionblock       | F pushparagraphtweak          |
| F positunum             | F pushpath                    |
| F positunumdef          | F pushrandomseed              |
| F postlistbox           | F pushreferenceprefix         |
| F postlistcopy          | F pushregime                  |
| F postponeotes          | F pushrunstate                |
| F prefixedconverted     | F pushsectionblock            |
| F prelistbox            | F pushstream                  |
| F prelistcopy           | F putboxincache               |
| F preparecolumnsetflush | F putincolumnset              |
| F prerolledpages        | F putincolumnsetdirect        |

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|---------------------------------|------------------------------|
| F putnextboxincache             | F registerhyphenationpattern |
| F qrcodebuffer                  | F registeritemgroup          |
| F qrcodestring                  | F registerlabel              |
| F rawMPdata                     | F registerlanguagefeatures   |
| F rawcharacter                  | F registerlinenumbering      |
| F rawsetupstring                | F registermaintextcolor      |
| F rawsubcountervalue            | F registermpextensible       |
| F read                          | F registernamedlua           |
| F readfromterminal              | F registernamespace          |
| F readline                      | F registerobject             |
| F readlinedirect                | F registerpattern            |
| F recolorbox                    | F registerpostponedblock     |
| F referencecolumn               | F registerreferencedobject   |
| F referencepagedetail           | F registerrendering          |
| F referencepagestate            | F registersection            |
| F referenceposx                 | F registershownsynonym       |
| F referenceposy                 | F registersnaprange          |
| F referencerealpage             | F registerstructureprocessor |
| F registeranchorbox             | F registersynchronize        |
| F registerattachment            | F registersynonym            |
| F registerbackendsymbol         | F registertransliteration    |
| F registerbackground            | F registerunit               |
| F registerbodyfontsize          | F registerunitshortcut       |
| F registerbookmark              | F registerunknownbodysize    |
| F registerboxglyph              | F registerusedsynonym        |
| F registerbuttons               | F registeruserdata           |
| F registercolorintent           | F registerverbosemathlabel   |
| F registercolumnsetarea         | F removelastring             |
| F registercolumnsetsheet        | F renderingvar               |
| F registercolumnsetspreadsheets | F reorderfloats              |
| F registerengineclass           | F replacefeature             |
| F registerfallbackfont          | F replacepospxywhd           |
| F registerfiguremask            | F replacewildcard            |
| F registerfigurepattern         | F reportstructure            |
| F registerfigurerange           | F resavefloat                |
| F registerfiguresuffix          | F reservedautoregiontag      |
| F registerfilescheme            | F resetMPinstance            |
| F registerfontalternative       | F resetalternate             |
| F registerfontfamily            | F resetbackgroundrowdata     |
| F registerforcedbreak           | F resetboxesincache          |
| F registergroupset              | F resetcharacteralign        |
| F registerhashedfiles           | F resetcolumnset             |
| F registerhelp                  | F resetcomparingtext         |
| F registerhyphenationexception  | F resetcounter               |

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|----------------------------|---------------------------|
| F reseteffect              | F savecurrentattributes   |
| F resetfeature             | F savecurrentvalue        |
| F resetfontfeature         | F savedlistnumber         |
| F resetfontsolution        | F savedlistprefixednumber |
| F resetforcedbreak         | F savedlisttitle          |
| F resetinjector            | F savefloat               |
| F resetlogfile             | F saveimageresource       |
| F resetmapfiles            | F savemargindata          |
| F resetmathattributes      | F savenote                |
| F resetnullfont            | F savepagedata            |
| F resetparallel            | F savepageinjections      |
| F resetpath                | F saveparallel            |
| F resetreference           | F savepos                 |
| F resetscript              | F savespecificfloat       |
| F resetstructureprocessor  | F savestructureblock      |
| F resetsubcounter          | F scangivendimensions     |
| F resetsynchronizemarking  | F scriptsmodecodestring   |
| F resetsynonyms            | F second                  |
| F resettimer               | F selectstructureblock    |
| F resettrackers            | F set_extensible_data     |
| F resolvedemoji            | F setadaptive             |
| F restartcounter           | F setalternate            |
| F restartsubcounter        | F setautoprefix           |
| F restorecounter           | F setbackgroundrowdata    |
| F restorecurrentattributes | F setboxglyph             |
| F restorenote              | F setboxline              |
| F restoreobject            | F setbreakpoints          |
| F reuserandomseed          | F setcharacteralign       |
| F reverseboxcontent        | F setcharacteraligndetail |
| F revivefeature            | F setcharactercasing      |
| F rightmathkern            | F setcharactercleaning    |
| F romannumerals            | F setcharacterkerning     |
| F rotateparshape           | F setcharacterspacing     |
| F rounded                  | F setcharacterstripping   |
| F roundedfill              | F setcloseddocumentaction |
| F roundedoutline           | F setclosepageaction      |
| F ruby                     | F setcolormodel           |
| F ruleoptioncodestring     | F setcolumnsetarea        |
| F runcontextjob            | F setcolumnsetlines       |
| F safechar                 | F setcolumnsetmvl         |
| F samplefile               | F setcolumnsetpresent     |
| F saveboxresource          | F setcolumnsetproperties  |
| F savebuffer               | F setcolumnsetstart       |
| F savecounter              | F setcomparetext          |

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|------------------------------|-----------------------------|
| F setcomparingtext           | F setinterfacevariable      |
| F setcounter                 | F setinternalreference      |
| F setdataset                 | F setitaliccorrection       |
| F setdestinationattribute    | F setjavascriptpreamble     |
| F setdigitsmanipulation      | F setjobcomment             |
| F setdirection               | F setlanguageexceptions     |
| F setdocumentargument        | F setlanguageoptions        |
| F setdocumentcommandline     | F setlanguagepatterns       |
| F setdocumentctxfile         | F setlanguagesynonym        |
| F setdocumentdefaultargument | F setlinefiller             |
| F setdocumentenvironments    | F setlineprofile            |
| F setdocumentfilename        | F setlocalalignanchor       |
| F setdocumentfilenames       | F setlocalmarkanchor        |
| F setdocumentmodes           | F setlocalsyncanchor        |
| F setdocumentmodules         | F setluatable               |
| F seteffect                  | F setmathalphabet           |
| F setelementbackendtag       | F setmathattribute          |
| F setelementnature           | F setmathfontalternate      |
| F setextrafontkerns          | F setmathfontstyle          |
| F setfieldcalculationset     | F setmathsnapping           |
| F setfigureconversion        | F setmathvariant            |
| F setfigurelookuporder       | F setmetaglyph              |
| F setfigurepaths             | F setmpextensions           |
| F setfirstline               | F setnaturalwd              |
| F setfontfeature             | F setnegative               |
| F setfontofid                | F setnextinternalreferences |
| F setfontsolution            | F setnextreferenceorder     |
| F setformat                  | F setnotestate              |
| F setformsmethod             | F setopendocumentaction     |
| F sethsizecolumnset          | F setopenpageaction         |
| F sethsizecolumnspan         | F setowncounter             |
| F sethyphenatedurlcharacters | F setownsubcounter          |
| F sethyphenationfeatures     | F setpagecolormodel         |
| F sethyphenationmethod       | F setpagestate              |
| F setidentityvariable        | F setpagestaterealpageno    |
| F setinitial                 | F setpagetransition         |
| F setinitialsectionblock     | F setparagraphmetashape     |
| F setinjector                | F setparagraphshape         |
| F setinsertionlocation       | F setparbuilder             |
| F setinsertmigration         | F setparwrapper             |
| F setinterfaceconstant       | F setpdfcompression         |
| F setinterfaceelement        | F setperiodkerning          |
| F setinterfacemessage        | F setpostlistbox            |
| F setinterfacemessages       | F setprelistbox             |

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|--------------------------|---------------------------------|
| F setprofile             | F settagnotationsymbol          |
| F setrandomseed          | F settagparagraph               |
| F setrealign             | F settagproperty                |
| F setrealspaces          | F settagpublication             |
| F setreferencelinkmethod | F settagregister                |
| F setregionbox           | F settagsetreferencedescription |
| F setregionboxtagged     | F settagsorting                 |
| F setregistermethod      | F settagsubsentencesymbol       |
| F setreplacements        | F settagsynonym                 |
| F setruby                | F settagtablecell               |
| F setrule                | F settagtabulatecell            |
| F setscript              | F settransliteration            |
| F setsectionblock        | F setupbookmarks                |
| F setsectionentry        | F setupcanvas                   |
| F setshadow              | F setupcharacterspacing         |
| F setshift               | F setupcomparingtext            |
| F setsofthyphens         | F setupexport                   |
| F setsplitlisthtdp       | F setupfontexpansion            |
| F setstacking            | F setupfontprotrusion           |
| F setstructureblockstate | F setupinsertion                |
| F setstructurelevel      | F setuplinenumbering            |
| F setstructurenumber     | F setupsynctex                  |
| F setsubcounter          | F setupusermetadata             |
| F settagcodepoint        | F setupviewerlayer              |
| F settagcombination      | F setvisual                     |
| F settagcombinationpair  | F setvisualfont                 |
| F settagconstruct        | F setvisuallayer                |
| F settagdelimitedsymbol  | F setvisuals                    |
| F settagdescriptionindex | F setvsizecolumnset             |
| F settagfigure           | F setxmpfile                    |
| F settagfloat            | F shiftmatrixornaments          |
| F settagformulacontent   | F shiftparshape                 |
| F settaggedmetadata      | F shipoutpage                   |
| F settaggingcomment      | F showarray                     |
| F settaggingoption       | F showassignerror               |
| F settaggingpresets      | F showattributes                |
| F settaghighlight        | F showbits                      |
| F settagitem             | F showboxinbuffer               |
| F settagitemgroup        | F showbtxdatasetauthors         |
| F settaglist             | F showbtxdatasetcompleteness    |
| F settagmarginanchor     | F showbtxdatasetfields          |
| F settagmargintext       | F showbtxentry                  |
| F settagmpgraphic        | F showbtxfields                 |
| F settagnotation         | F showbtxhashedauthors          |

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|---------------------------------|-------------------------|
| F showbtxtables                 | F startalternativetext  |
| F showbtxvariants               | F startchemical         |
| F showchardata                  | F startclipping         |
| F showcounter                   | F startcollectingmath   |
| F showdirectives                | F startcolorset         |
| F showdiscretionaries           | F startcomponent        |
| F showexperiments               | F startenvironment      |
| F showfontparameters            | F startfontsolution     |
| F showhyphenatedinlist          | F startgraphicgroup     |
| F showhyphenationtrace          | F startlocalcomponent   |
| F showinjector                  | F startmarkpages        |
| F showjustification             | F startmatrix           |
| F showlogcategories             | F startmirroring        |
| F showluatables                 | F startpageblock        |
| F showluatokens                 | F startparbuilder       |
| F showmacrostack                | F startprerollpageblock |
| F showmessage                   | F startproduct          |
| F showpagelist                  | F startproject          |
| F showparagraphshape            | F startregime           |
| F showprofiledmacros            | F startrotation         |
| F showstructure                 | F startruby             |
| F showtrackers                  | F startscaling          |
| F silliness                     | F startsectionlevel     |
| F simplealign                   | F startstream           |
| F simplecases                   | F starttext             |
| F simplematrix                  | F startviewerlayer      |
| F sin                           | F step                  |
| F sind                          | F stopactualtext        |
| F sl                            | F stopalternativetext   |
| F spaceddigits                  | F stopchemical          |
| F spacefactorcodestring         | F stopclipping          |
| F spaceskipcodestring           | F stopcollectingmath    |
| F special                       | F stopcolorset          |
| F specificationoptioncodestring | F stopcomponent         |
| F specifiedfont                 | F stopenvironment       |
| F specifiedfontsize             | F stopfontsolution      |
| F specifiedfontspec             | F stopgraphicgroup      |
| F splitfilename                 | F stoplocalcomponent    |
| F splitsamplefile               | F stopmarkpages         |
| F spotcolorname                 | F stopmatrix            |
| F spotcolorparent               | F stopmirroring         |
| F spotcolorvalue                | F stoppageblock         |
| F squid_check                   | F stopparbuilder        |
| F startactualtext               | F stopprerollpageblock  |

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|---|----------------------------|
| F stopproduct                           | F synccolorclone           |
| F stopproject                           | F synccolorcount           |
| F stopregime                            | F synchronizelocalanchors  |
| F stoprotation                          | F synchronizemarking       |
| F stopscaling                           | F synchronizesteps         |
| F stopsectionlevel                      | F synchronizestream        |
| F stopstream                            | F syntexblockfilename      |
| F stoptext                              | F syntexdisable            |
| F stopviewerlayer                       | F syntexpause              |
| F storejavascriptcode                   | F syntexpopline            |
| F storejavascriptpreamble               | F syntexpushline           |
| F storenote                             | F syntexresetfilename      |
| F storeregister                         | F syntexresume             |
| F strc_tags_document_pop                | F syntexsetfilename        |
| F strc_tags_document_push               | F synonymfirstuserpage     |
| F strc_tags_get_element_tag             | F synonymmeaning           |
| F strc_tags_parcounter_pop              | F synonymname              |
| F strc_tags_parcounter_push             | F synonympages             |
| F strc_tags_set_aspect                  | F synonymuserpages         |
| F strc_tags_set_element_user_properties | F systemlog                |
| F strc_tags_start                       | F tabl_ntb_get_sec         |
| F strc_tags_start_chained               | F tabl_ntb_set_sec         |
| F strc_tags_start_detail                | F tagmfunctionlab          |
| F strc_tags_start_ignore                | F tagmfunctionlabattribute |
| F strc_tags_start_userdata              | F tan                      |
| F strc_tags_stop                        | F tand                     |
| F stringtoorientation                   | F textdir                  |
| F stripinserts                          | F texttime                 |
| F structureautocatcodedget              | F tf                       |
| F structureblockuservariable            | F thebox                   |
| F structurecatcodedget                  | F thefirstcharacter        |
| F structuregivencatcodedget             | F themaxboxwidth           |
| F structurenumber                       | F theremainingcharacters   |
| F structuretitle                        | F tightfitcompensation     |
| F structureuservariable                 | F timestring               |
| F structurevariable                     | F tobigpoints              |
| F subcountervalue                       | F tobit                    |
| F subsubcountervalues                   | F tobits                   |
| F subtocolumnsetmvl                     | F tochar                   |
| F subtocolumnsetmvlbalance              | F tohexa                   |
| F subtractfeature                       | F toorientation            |
| F svghashed                             | F totalofstring            |
| F sync                                  | F tounicharnum             |
| F synccolor                             | F towholebigpoints         |

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|----------------------------|-------------------------------------|
| F transliterate            | F userreferences                    |
| F transliteratebuffer      | F useregister                       |
| F transliterated           | F usesubpath                        |
| F transliteratedbuffer     | F usesymbols                        |
| F transliterationexception | F usetransliteration                |
| F traverseblock            | F useurl                            |
| F traversemath             | F usezipfile                        |
| F triggerpagebuilder       | F utfchar                           |
| F truefilename             | F utflower                          |
| F truefontname             | F utfmathclass                      |
| F type                     | F utfmathcommand                    |
| F typebuffer               | F utfmathcommandfiller              |
| F typefile                 | F utfmathfiller                     |
| F uchar                    | F utfmathstretch                    |
| F uchexnumber              | F utfshape                          |
| F uchexnumbers             | F utfstrip                          |
| F undefinechemical         | F utfupper                          |
| F unicodechar              | F uuid                              |
| F unihex                   | F vboxlisttohbox                    |
| F unit                     | F verbose                           |
| F unloadlanguage           | F vpackbox                          |
| F unstripinserts           | F vpackedbox                        |
| F unsupportedcs            | F way                               |
| F useMPLibrary             | F weekday                           |
| F useanyfile               | F weekdayname                       |
| F useanyfileonce           | F widthofstring                     |
| F useboxresource           | F widthuptohere                     |
| F usecolors                | F write                             |
| F usecomponent             | F writeline                         |
| F useenvironment           | F writestatus                       |
| F usefigurebase            | F writestring                       |
| F usefile                  | F x_table_c                         |
| F useimageresource         | F x_table_cleanup                   |
| F usejavascriptpreamble    | F x_table_construct                 |
| F usejavascriptscripts     | F x_table_create                    |
| F uselibrary               | F x_table_finish_row                |
| F uselist                  | F x_table_flush                     |
| F useluamodule             | F x_table_init_construct            |
| F useluatable              | F x_table_init_reflow_height        |
| F usemathpluginlibrary     | F x_table_init_reflow_height_option |
| F usemodules               | F x_table_init_reflow_width         |
| F usepath                  | F x_table_init_reflow_width_option  |
| F useproduct               | F x_table_next_row                  |
| F useproject               | F x_table_next_row_option           |

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|-----------------------------|-----------------------|
| F x_table_r                 | F xmldoifnotempty     |
| F x_table_reflow_height     | F xmldoifnotselfempty |
| F x_table_reflow_width      | F xmldoifnottext      |
| F x_table_set_construct     | F xmldoifselfempty    |
| F x_table_set_reflow_height | F xmldoiftext         |
| F x_table_set_reflow_width  | F xmlelement          |
| F xmladdindex               | F xmlfileline         |
| F xmlaftersetup             | F xmlfilename         |
| F xmlall                    | F xmlfilter           |
| F xmlappendsetup            | F xmlfilterlist       |
| F xmlapplyselectors         | F xmlfirst            |
| F xmlatt                    | F xmlflush            |
| F xmlattdef                 | F xmlflushcontext     |
| F xmlattribute              | F xmlflushlinewise    |
| F xmlattributedef           | F xmlflushpure        |
| F xmlbadinclusions          | F xmlflushsetups      |
| F xmlbeforesetup            | F xmlflushspacewise   |
| F xmlchainatt               | F xmlflushstext       |
| F xmlchainattdef            | F xmlformulatobuffer  |
| F xmlchecknamespace         | F xmlfunction         |
| F xmlcommand                | F xmlgetindex         |
| F xmlconcat                 | F xmlinclude          |
| F xmlconcatrange            | F xmlincludeoptions   |
| F xmlcontext                | F xmlinclusion        |
| F xmlcount                  | F xmlinclusionbase    |
| F xmlcssmappedstylevalue    | F xmlinclusions       |
| F xmlcssstylevalue          | F xmlindex            |
| F xmldelete                 | F xmlinlineneverbatim |
| F xmldepth                  | F xmlinstalldirective |
| F xmldirect                 | F xmllast             |
| F xmldirectives             | F xmllastatt          |
| F xmldirectivesafter        | F xmllastmatch        |
| F xmldirectivesbefore       | F xmllastpar          |
| F xmldisplayverbatim        | F xmlloadbuffer       |
| F xmldoif                   | F xmlloaddata         |
| F xmldoifatt                | F xmlloaddirectives   |
| F xmldoifelse               | F xmlloadentities     |
| F xmldoifelseatt            | F xmlloadfile         |
| F xmldoifelseempty          | F xmlmain             |
| F xmldoifelseselselfempty   | F xmlmatch            |
| F xmldoifsetext             | F xmlname             |
| F xmldoifempty              | F xmlnamespace        |
| F xmldoifnot                | F xmlnonamespace      |
| F xmldoifnotatt             | F xmlpar              |

F xmlparam  
 F xmlpath  
 F xmlpopmatch  
 F xmlpos  
 F xmlprependsetup  
 F xmlpure  
 F xmlpushmatch  
 F xmlraw  
 F xmlrawtex  
 F xmlrefatt  
 F xmlregisterns  
 F xmlremapname  
 F xmlremapnamespace  
 F xmlremovesetup  
 F xmlresetinjectors  
 F xmlresetsetups  
 F xmlsave  
 F xmlsetatt  
 F xmlsetattribute  
 F xmlsetcommandtonone  
 F xmlsetcommandtotext  
 F xmlsetentity  
 F xmlsetinjectors  
 F xmlsetpar  
 F xmlsetparam  
 F xmlsetsetup  
 F xmlsnippet  
 F xmlstartraw  
 F xmlstarttiming  
 F xmlstopraw  
 F xmlstoptiming  
 F xmlstrip  
 F xmlstripanywhere  
 F xmlstripeverything  
 F xmlstripnolines  
 F xmlstripped  
 F xmlstrippednolines  
 F xmltag  
 F xmltexatt  
 F xmltexentity  
 F xmltext  
 F xmltobuffer  
 F xmltobufferfertextonly  
 F xmltobufferverbose

F xmltofile  
 F xmltoparameters  
 F xmlverbatim  
 F xmlwithindex  
 F year

## containers

F cleanname  
 F content  
 F define  
 F is\_usable  
 F is\_valid  
 F read  
 B usecache  
 F write

table

## context

F bc  
 F bgroup  
 F char  
 F concat  
 D conditionals  
 F cssdimension  
 F ctxescape  
 F ctxescaped  
 F direct  
 F egroup  
 F escape  
 F escaped  
 F firstofoneargument  
 F firstoftwoarguments  
 F fprint  
 F getlogger  
 F glyph  
 F gobbleoneargument  
 F latelua  
 F loadfile  
 F loadviafile  
 D modes  
 F newindexer  
 F newtexthandler  
 F newverbosehandler  
 F nr  
 F par  
 F popcatcodes  
 F poplogger

function

F printlines  
 F printtable  
 F protect  
 F pushcatcodes  
 F pushlogger  
 F rule  
 F runfile  
 F runstring  
 F safechar  
 F secondoftwoarguments  
 F setconditional  
 F setfontid  
 F setmode  
 F setsystemmode  
 F settracing  
 F settrialtypesettingmethod  
 F space  
 F sprint  
 F startcollecting  
 F step  
 F stepwise  
 F stopcollecting  
 D systemmodes  
 F tobuffer  
 D tokenizedcds  
 F tolines  
 F trialtypesetting  
 F unprotect  
 F utfchar  
 F viafile

## converters

## table

F A  
 F A:es  
 F A:ru  
 F A:sl  
 F AK  
 F Alphabetic  
 F Alphabetic:es  
 F Alphabetic:ru  
 F Alphabetic:sl  
 F Character  
 F Characters  
 F I  
 F KA

F KR  
 F R  
 F RK  
 F Romannumerals  
 F Russiannumerals  
 F Slovenianumerals  
 F Spanishnumerals  
 F Word  
 F Words  
 F a  
 F a:es  
 F a:ru  
 F a:sl  
 F abjadnodotnumerals  
 F abjadnumerals  
 F alphabetic  
 F alphabetic:es  
 F alphabetic:ru  
 F alphabetic:sl  
 F character  
 F characters  
 F chineseallnumerals  
 F chineseapnumerals  
 F chinesedatenumerals  
 F chinesenumerals  
 F chr  
 F chrs  
 F cn  
 F cn-a  
 F cn-c  
 F cn-d  
 F convert  
 F decimals  
 F define  
 F gregorian\_to\_hebrew  
 F gregorian\_to\_jalali  
 F hebrewnumerals  
 F hexstringtonumber  
 F i  
 F isleapyear  
 F jalali\_to\_gregorian  
 F lchexnumber  
 F lchexnumbers  
 F leapyear

|                     |       |                         |          |
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| F lower             |       | <b>debug</b>            |          |
| F max               |       | F getinfo               | table    |
| F maxchars          |       | F sethook               |          |
| F nicenumber        |       | F traceback             |          |
| F nofdays           |       | <b>dimen</b>            | function |
| F number            |       | <b>dir</b>              | table    |
| F numbers           |       | F collectpattern        |          |
| F octnumber         |       | F current               |          |
| F octstringtonumber |       | F expandlink            |          |
| F ordinal           |       | F expandname            |          |
| F r                 |       | F found                 |          |
| F romannumerals     |       | F glob                  |          |
| F russiannumerals   |       | F globdirs              |          |
| D sequences         |       | F globfiles             |          |
| F settime           |       | F globpattern           |          |
| F sloveniannumerals |       | F ls                    |          |
| F spaceddigits      |       | F makedirs              |          |
| F spanishnumerals   |       | F mkdirs                |          |
| F textime           |       | F pop                   |          |
| F toabjad           |       | F push                  |          |
| F tochinese         |       | <b>directives</b>       | table    |
| F tohebrew          |       | D data                  |          |
| F toroman           |       | F default               |          |
| F totime            |       | F disable               |          |
| F uchexnumber       |       | F enable                |          |
| F uchexnumbers      |       | F list                  |          |
| F upper             |       | S name                  |          |
| F weekday           |       | F register              |          |
| F word              |       | F report                |          |
| F words             |       | F reset                 |          |
| <b>coroutine</b>    | table | F show                  |          |
| F close             |       | F value                 |          |
| F create            |       | F values                |          |
| F isyieldable       |       | <b>document</b>         | table    |
| F resume            |       | D arguments             |          |
| F running           |       | F getargument           |          |
| F status            |       | F getfilename           |          |
| F wrap              |       | F pdf_cleanup_cidsets   |          |
| F yield             |       | F pdf_cleanup_procsets  |          |
| <b>ctxrunner</b>    | table | F pdf_identify_content  |          |
| F load              |       | F pdf_serialize_content |          |
| F preparedfile      |       | F pdf_strip_content     |          |
| D prefiles          |       | F pdf_strip_page        |          |
| F resolve           |       | F setargument           |          |

|                      |          |                          |
|----------------------|----------|--------------------------|
| F setcommandline     |          | N currentrun             |
| F setdefaultargument |          | F definefilefallback     |
| F setenvironments    |          | F definefilesynonym      |
| F setfilename        |          | D engineflags            |
| F setfilenames       |          | S filename               |
| F setmodes           |          | D filesynonyms           |
| F setmodules         |          | N forcedruns             |
| D variables          |          | F getargument            |
| <b>documentdata</b>  | table    | F globfiles              |
| F variable           |          | S homedir                |
| <b>dofile</b>        | function | B initex                 |
| <b>drivers</b>       | table    | B initexmode             |
| F applyanchor        |          | F initializearguments    |
| F applyorientation   |          | F initializefilenames    |
| F convert            |          | S inputfilebarename      |
| F enable             |          | S inputfilename          |
| F finalize           |          | S inputfilesuffix        |
| F gethpos            |          | S jobfilefullname        |
| F gethvrpos          |          | S jobfilename            |
| F getpos             |          | S jobfilesuffix          |
| F getrpos            |          | N kindofrun              |
| F getvpos            |          | N lmtxmode               |
| F initialize         |          | F loadexamodes           |
| F install            |          | F loadluafile            |
| N lmtxversion        |          | F luafile                |
| F outputfilename     |          | F luafilechunk           |
| F report             |          | S luatexengine           |
| <b>effects</b>       | table    | N luatexfunctionality    |
| F getoctaveloops     |          | S luatexverbose          |
| F getoctavemethods   |          | N luatexversion          |
| F getoctavestatus    |          | N maxnofruns             |
| F getoctavevariants  |          | S oldhome                |
| F newoctave          |          | D originalarguments      |
| F octave             |          | S outputfilename         |
| F octavebytemap      |          | S ownbin                 |
| F perlinnoise        |          | S ownmain                |
| F simplexangle       |          | S ownname                |
| F simplexdetail      |          | S ownpath                |
| F simplexnoise       |          | B prerollrun             |
| F stepoctave         |          | D rawarguments           |
| <b>environment</b>   | table    | F reconstructcommandline |
| F argument           |          | F relativepath           |
| D arguments          |          | F setargument            |
| D basicengines       |          | F splitarguments         |

S suffix  
F texfile  
S texmfos  
S texos  
S texroot  
F truefilename  
F useluamodule  
F usemodules  
D validengines  
S version

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**experiments** table

D data  
F default  
F disable  
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S name  
F register  
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F value  
F values

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F badname  
D bases  
F bitmapimage  
N boxnumber  
F bytepalette  
D cachepaths  
F check  
D checkers  
D conversions  
D converters  
F current  
N defaultdepth  
N defaultheight  
B defaultsearch  
N defaultwidth  
F done  
F dummy  
D existers

F exists  
D formats  
D found  
F get  
F getinfo  
F getpdfinfo  
F getrealpage  
F guess  
F guessfromstring  
F hash  
D identifiers  
F identify  
F include  
D includers  
F initialize  
D loaded  
D localpaths  
D magics  
F mergegoodies  
N nofmissing  
N nofprocessed  
D order  
D paths  
D patterns  
F pop  
B preferquality  
D programs  
F push  
F qrcode  
F registerpattern  
F registerresource  
F registersuffix  
D remappers  
D resources  
F scale  
F set  
F setconversion  
F setlookups  
F setorder  
F setpaths  
D suffixes  
D used

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F addsuffix

|                     |                     |
|---------------------|---------------------|
| F basename          | F readcardinal1le   |
| F checksum          | F readcardinal2     |
| F collapsepath      | F readcardinal2le   |
| F copy              | F readcardinal3     |
| F dirname           | F readcardinal3le   |
| F expandname        | F readcardinal4     |
| F extname           | F readcardinal4le   |
| F is_qualified_path | F readcardinaltable |
| F is_readable       | F readcline         |
| F is_rootbased_path | F readcstring       |
| F is_writable       | F readdouble        |
| F isreadable        | F readdoublele      |
| F iswritable        | F readfixed2        |
| F join              | F readfixed4        |
| F joinpath          | F readfloat         |
| F loadchecksum      | F readfloatle       |
| F nameonly          | F readinteger1      |
| F nametotable       | F readinteger1le    |
| F needs_updating    | F readinteger2      |
| F needsupdating     | F readinteger2le    |
| F pathpart          | F readinteger3      |
| F readdata          | F readinteger3le    |
| F removesuffix      | F readinteger4      |
| F replacesuffix     | F readinteger4le    |
| F reslash           | F readintegertable  |
| F robustname        | F setposition       |
| F savechecksum      | F skipposition      |
| F savedata          | F writecardinal1    |
| F size              | F writecardinal1le  |
| F splitbase         | F writecardinal2    |
| F splitname         | F writecardinal2le  |
| F splitpath         | F writecardinal3    |
| F suffix            | F writecardinal3le  |
| F suffixes          | F writecardinal4    |
| F suffixesonly      | F writecardinal4le  |
| F suffixonly        | F writedouble       |
| F syncmtimes        | F writedoublele     |
| F withinbase        | F writefloat        |
|                     | F writefloatle      |

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F getposition  
 F read2dot14  
 F readbytes  
 F readbytetable  
 F readcardinal1

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**table**

F analysemethod  
 F checkedpagefloat  
 F collect  
 F consult

F flush  
F getvariable  
F hasstacked  
F nofstacked  
F pop  
F push  
F resave  
F save  
F stacked

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F addcharacters  
F addquality  
F current  
F define  
F getfont  
F getfontdimen  
F getfontfields  
F getfontspec  
F getmathcharacterfields  
F getmathindex  
F getmathspec  
F getparameterfields  
F gettextcharacterfields  
F id  
F max  
F nextid  
F setfont  
F setfontdimen  
F xscaled  
F yscaled

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F current  
F currentid  
F definitypeface  
F enhanceid  
D expansions  
D formats  
F getalternate  
F getindices  
F getkern  
F getmultiple  
F getsubstitution  
F infofont  
F mode

D names  
D nulldata  
D protrusions  
F registersanitizer  
F reserveid  
F toeffect

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F dummy

**getmetatable** function

**globaldata** table

N CONTEXTLMTXMODE  
N LUAFORMAT  
N LUAMAJORVERSION  
N LUAMINORVERSION  
S LUAENGINE  
N LUAFORMATID  
N LUAEXFUNCTIONALITY  
S LUAEXVERBOSE  
N LUAEXVERSION  
N LUAVERSION  
F SAVEDREQUIRE  
F assert  
F characterkern  
F collectgarbage  
F dimen  
F dofile  
F error  
F getmetatable  
F inspect  
F ipairs  
F load  
D loaders  
F loadfile  
F loadstring  
F next  
F optionalrequire  
F pairs  
F pcall  
F print  
F rawequal  
F rawget  
F rawlen  
F rawset  
F require

F select  
 F setinspector  
 F setmathparameters  
 F setmetatable  
 D texconditionals  
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 D texifs  
 D texisdefined  
 D texmodes  
 D texsystemmodes  
 F toboolean  
 F todecimal  
 F tonumber  
 F tostring  
 F type  
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 F warn  
 F xpcall

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table

N CONTEXTLMTXMODE  
 N LUAFORMAT  
 N LUAMAJORVERSION  
 N LUAMINORVERSION  
 S LUAEXENGINE  
 N LUAEXFORMATID  
 N LUAEXFUNCTIONALITY  
 S LUAEXVERBOSE  
 N LUAEXVERSION  
 N LUAVERSION  
 F SAVEDREQUIRE  
 F assert  
 F characterkern  
 F collectgarbage  
 F dimen  
 F dofile  
 F error  
 F getmetatable  
 F inspect  
 F ipairs  
 F load  
 D loaders  
 F loadfile  
 F loadstring  
 F next

F optionalrequire  
 F pairs  
 F pcall  
 F print  
 F rawequal  
 F rawget  
 F rawlen  
 F rawset  
 F require  
 F select  
 F setinspector  
 F setmathparameters  
 F setmetatable  
 D texconditionals  
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 D texifs  
 D texisdefined  
 D texmodes  
 D texsystemmodes  
 F toboolean  
 F todecimal  
 F tonumber  
 F tostring  
 F type  
 F unpack  
 F warn  
 F xpcall

**graphics**

table

F bpsize  
 F identify  
 F registerpdfcompactor  
 F registerpdffont

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table

F compress  
 F compressed  
 F decompress  
 F load  
 F save  
 F suffix

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table

F getprofile  
 F mathnested  
 F mathprocess  
 F mathstep

|                        |          |                     |       |
|------------------------|----------|---------------------|-------|
| F snapindeed           |          | D hashedsetups      |       |
| F snaplist             |          | F implement         |       |
| F traversecharmmethod  |          | F interfacedcommand |       |
| F traverseglyphmethod  |          | F knownscanner      |       |
| F traversehorizontal   |          | F message           |       |
| F traversevertical     |          | F nameofscanner     |       |
| <b>images</b>          | table    | F registernamespace |       |
| F check                |          | F registerscanner   |       |
| F checksize            |          | D scanners          |       |
| F copy                 |          | F setconstant       |       |
| F create               |          | F setcount          |       |
| F embed                |          | F setdimen          |       |
| F embedfromstore       |          | F setelement        |       |
| F fetchdata            |          | F setformat         |       |
| F print                |          | F setmacro          |       |
| F resetdata            |          | F setmessage        |       |
| F resetstore           |          | F setmessages       |       |
| F scan                 |          | F settranslation    |       |
| F serialize            |          | D setupstrings      |       |
| F storedata            |          | F setvariable       |       |
| F totable              |          | F showmessage       |       |
| F wrap                 |          | D storedscanners    |       |
| <b>inspect</b>         | function | F tolist            |       |
| <b>interactions</b>    | table    | D translations      |       |
| D attachments          |          | D usednamespaces    |       |
| D linkedlists          |          | D variables         |       |
| D renderings           |          | F writestatus       |       |
| <b>interfaces</b>      | table    | <b>io</b>           | table |
| D cachedsetups         |          | F ask               |       |
| F cachesetup           |          | F bytes             |       |
| F checkedspecification |          | F characters        |       |
| D complete             |          | F close             |       |
| D constants            |          | F copydata          |       |
| D corenamespaces       |          | F exists            |       |
| S currentinterface     |          | S fileseparator     |       |
| S currentresponse      |          | F flush             |       |
| F definecommand        |          | F gobble            |       |
| F defined              |          | F input             |       |
| F doifelsemessage      |          | F lines             |       |
| D elements             |          | F loadchunk         |       |
| D formats              |          | F loaddata          |       |
| F getmessage           |          | F loadlines         |       |
| F getnamespace         |          | F newreader         |       |
| F getsetupstring       |          | F noflines          |       |

F open  
F output  
S pathseparator  
F popen  
F read  
F readall  
F readnumber  
F readstring  
F savedata  
F size  
U stderr  
U stdin  
U stdout  
F tmpfile  
F type  
F write

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**job** table

F comment  
F disablesave  
F getrandomseed  
F initialize  
F load  
F loadother  
B pack  
N packversion  
F register  
F save  
N version

**kpse** table  
**language** table

F clean  
F clearhyphenation  
F clearpatterns  
F current  
F gethjcode  
F has\_language  
F hyphenate  
F hyphenation  
F hyphenationmin  
F id  
F new  
F patterns  
F postexhyphenchar

F posthyphenchar  
F preexhyphenchar  
F prehyphenchar  
F sethjcode  
F setwordhandler

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F addgoodiesdata  
F addgoodiesfile  
F associate  
D associated  
F association  
D counters  
F current  
D data  
D decimals  
F define  
F explicitlyphen  
F exportlanguage  
F flatten  
F getdata  
F getmetadata  
F getnumber  
F goodiefiles  
F hyphenate  
F installed  
F installhandler  
F loadable  
F loadwords  
F nofflattened  
D numbers  
F pdflanguage  
F postexhyphenchar  
F posthyphenchar  
F preexhyphenchar  
F prehyphenchar  
D registered  
F serializediscretionary  
F setexceptions  
F setgoodieshandler  
F setoptions  
F setpatterns  
F setsynonym  
F setwordhandler  
F showdiscretionaries

F strippedgoodiewords

F tolang

F unload

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F visualizediscretionaries

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F getcanvas

F getpagedimensions

F setupcanvas

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F attributes

F chdir

F currentdir

F dir

F isdir

F isfile

F isfound

F isreadabledir

F isreadablefile

F iswriteabledir

F iswriteablefile

F link

F mkdir

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F readlink

F rmdir

F setexecutable

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D basictex

D builtin

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F convert

F convertfile

F convertstring

F einject

F eprint

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F finject

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F inject

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F new

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F application

F categories

F direct

F disable

F enable

F finalactions

F flush

F loggingerrors  
F messenger  
F new  
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F poplogfile  
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F pushlogfile  
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F registerfinalactions  
F report  
F reporter  
F resetlogfile  
F setformats  
F setformatters  
F setlogfile  
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F settarget  
F settimedlog  
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F show  
F start\_page\_number  
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F starterrorlogging  
F startfilelogging  
F status  
F stop\_page\_number  
F stoperrorlogging  
F stopfilelogging  
F subdirect  
F subreport  
F system  
F texerrormessage  
F writer

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F action  
F adddocumentcolorspace  
F adddocumenttextgstate  
F adddocumentpattern  
F adddocumentshade  
F addtocatalog  
F addtoinfo  
F addtonames  
F addtopageattributes

F addtopageresources  
F addtopagesattributes  
F addxmpinfo  
F annotationspecification  
F array  
F attachmentsymbols  
F boolean  
F border  
F checkedkey  
F checkedresources  
F checkedvalue  
F circularshade  
F close  
F cmykcode  
F collectedresources  
F color  
F colorspace  
D colorspaceconstants  
F colorspec  
F colorvalue  
F colorvalues  
F commentsymbols  
F compressdata  
F compresslevel  
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F copyarray  
F copyboolean  
F copyconstant  
F copydictionary  
F copyfloat  
F copyinteger  
F copynumber  
F copystring  
F copyunicode  
F deferredobject  
F delayedobject  
F destinationspecification  
F dictionary  
F docstring  
F escaped  
F finalizedocument  
F finalizepage  
F finalizesignature  
F finishtransparencycode

|                         |                             |
|-------------------------|-----------------------------|
| F flushfonts            | F number                    |
| F flushgroup            | F object                    |
| F flushobject           | F objectcompresslevel       |
| F flushstreamfileobject | F pagereference             |
| F flushstreamobject     | F patternstream             |
| D formats               | F pdfcolor                  |
| F frombytes             | F pdftimestamp              |
| F fromeight             | F preparesignature          |
| F frompdfdoc            | F print                     |
| F fromsixteen           | F procset                   |
| F getcatalog            | B protectresources          |
| F getcompression        | F quads                     |
| F getfontname           | F rectangle                 |
| F getfontobjectnumber   | F reference                 |
| F getformatoption       | F registerannotation        |
| F getinfo               | F registerdestination       |
| F getmatrix             | F registerdocumentfinalizer |
| F getnofpages           | F registerfontmethod        |
| F getpageproperties     | F registerinitializer       |
| F getpagereference      | F registerpagefinalizer     |
| F getpagetags           | F registerpattern           |
| F getpos                | F registersignature         |
| F gettaggingstatus      | F replacexmpinfo            |
| F gettrailerid          | F reserveobject             |
| F getversion            | F rgbcode                   |
| F getxformname          | F rotationcm                |
| F graycode              | F setcompression            |
| F hasmatrix             | F setencryption             |
| F immediateobject       | F setpageorder              |
| F includeimage          | F setpagestate              |
| F initialize            | F setpagetag                |
| F injectxmpinfo         | F setutfstringmode          |
| F insertxmpinfo         | F setversion                |
| F lastreferredpage      | F sharedobject              |
| F layerreference        | F shareobject               |
| F limited               | F shareobjectreference      |
| F linearshade           | F splitsixteen              |
| F literal               | F spotcode                  |
| F majorversion          | F stream                    |
| F makenametree          | F string                    |
| F minorversion          | F supportedformats          |
| F nofontregistries      | F tocidset                  |
| F nofpages              | F toeight                   |
| F null                  | F topdfdoc                  |

F topermissions  
F tosixteen  
F transparency  
F transparencycode  
F transparencyvalue  
F unicode  
D usedfontstreams  
F verbose

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F B  
F C  
F Carg  
F Cb  
F Cc  
F Cf  
F Cg  
F Cmt  
F Cp  
F Cs  
F Ct  
F P  
F R  
F S  
F UP  
F UR  
F US  
F V  
F afterprefix  
F anywhere  
F append  
F balancer  
F beforesuffix  
F checkedsplit  
F containsws  
F counter  
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| F             | registercode            |       | F | content         |
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| F             | registerglobal          |       | F | convert         |
| F             | registerinitexfinalizer |       | F | count           |
| F             | registername            |       | F | delete          |
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| F             | setexitcode             |       | F | direct          |
| F             | setnibble               |       | F | displayverbatim |
| S             | startupfile             |       | F | doif            |
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| S             | version                 |       | F | doifelseempty   |
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| F             | abort                   |       | F | doifnottext     |
| F             | cleanup                 |       | F | doiftext        |
| F             | cleanuptempfiles        |       | F | element         |
| F             | currentfile             |       | F | elements        |
| F             | currentlevel            |       | D | entities        |
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| F             | registerpageactions     |       | F | first           |
| F             | registerstartactions    |       | F | flush           |
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| F             | registertempfile        |       | F | flushsetups     |
| N             | starttime               |       | F | flushspacewise  |
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| F rawroot        | F acos             |
| F rawtex         | F asin             |
| F refatt         | F atan             |
| F register       | F atan2            |
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| F removesetup    | F ceiling          |
| F replace        | F cos              |
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| F nospaces        | F utfcharacterstable |
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| F error                         | F getdelayedgluetargetvalues   |
| F expandasvalue                 | F getdelcode                   |
| D experiments                   | F getdelcodes                  |
| F extraprimitives               | F getdimen                     |
| F fatalerror                    | F getdimensionvalue            |
| D fillcodes                     | F getdirectionvalues           |
| D flagcodes                     | F getdiscoptionvalues          |
| F fontidentifier                | F getdiscpartvalues            |
| F fontname                      | F getdoublescriptoptionvalues  |
| F forcehmode                    | F getemptyparagraphmodevalues  |
| F forceinputstatefile           | F geterrorrecoverymodevalues   |
| F forceinputstateline           | F geterrorvalues               |
| F fprint                        | F getfillvalues                |
| D frozenparcodes                | F getflagvalues                |
| F get                           | F getfloat                     |
| F getadjustoptionvalues         | F getfontdimension             |
| F getalignmentcontextvalues     | F getfontoffamily              |
| F getamcode                     | F getfrozenparvalues           |
| F getappendadjustcontextvalues  | F getglue                      |
| F getappendmigratecontextvalues | F getglueoptionvalues          |
| F getattribute                  | F getglyphdata                 |
| F getautomigrationvalues        | F getglyphdiscvalues           |
| F getautoparagraphvalues        | F getglyphoptionvalues         |
| F getbadnessmodevalues          | F getglyphprotectionvalues     |
| F getbalancecallbackvalues      | F getglyphscales               |
| F getbalanceparameterfields     | F getglyphscript               |
| F getbalanceresultfields        | F getglyphstate                |
| F getbalancestepoptionvalues    | F getgroupvalues               |
| F getbox                        | F gethccode                    |

|                               |                              |
|-------------------------------|------------------------------|
| F gethelptext                 | F getmathcontrolvalues       |
| F gethmcodes                  | F getmathdir                 |
| F gethyphenationvalues        | F getmathgluevalues          |
| F getiftypes                  | F getmathoptionvalues        |
| F getinputstatefile           | F getmathparametervalues     |
| F getinputstateline           | F getmathscriptordervalues   |
| F getinputstatemode           | F getmathscriptsmodevalues   |
| F getinsertcategoryvalues     | F getmathstylenamevalues     |
| F getinsertcontent            | F getmathstylevalues         |
| F getinsertdepth              | F getmathstylevariant        |
| F getinsertdistance           | F getmathsurroundvalues      |
| F getinsertheight             | F getmathvariantpresets      |
| F getinsertlimit              | F getmathvariantvalues       |
| F getinsertmaxplaced          | F getmeasure                 |
| F getinsertmultiplier         | F getmissingcharactervalues  |
| F getinsertoptionvalues       | F getmode                    |
| F getinsertsplitvalues        | F getmodevalues              |
| F getinsertwidth              | F getmuglue                  |
| F getintegervalue             | F getmuskip                  |
| F getinteraction              | F getmvloptionvalues         |
| F getinteractionmodes         | F getnest                    |
| F getiovalues                 | F getnestfields              |
| F getkerneloptionvalues       | F getnestlevel               |
| F getkernoptionvalues         | F getnoadoptiovalues         |
| F getlargestusedmark          | F getnormalizelinevalues     |
| F getlccode                   | F getnormalizeparvalues      |
| F getlinebreakparameterfields | F getnospacesmodevalues      |
| F getlinebreakresultfields    | F getoutputactive            |
| F getlinebreakstatevalues     | F getoverloadstate           |
| F getlinedir                  | F getpacktypevalues          |
| F getlist                     | F getpagecontextvalues       |
| F getlistanchorvalues         | F getpagestate               |
| F getlistfields               | F getpagestatevalues         |
| F getlistgeometryvalues       | F getparagraphfillmodevalues |
| F getlistsigvalues            | F getparagraphoptionvalues   |
| F getlocalbox                 | F getparametermodevalues     |
| F getlocalboxlocations        | F getparcontextvalues        |
| F getlocallevel               | F getpardataspecifications   |
| F getmark                     | F getpardir                  |
| F getmarknames                | F getparmodevalues           |
| F getmath                     | F getparstate                |
| F getmathclassoptionvalues    | F getparstatefields          |
| F getmathcode                 | F getpartriggervalues        |
| F getmathcodes                | F getpenaltyoptionvalues     |

|   |                              |   |                         |
|---|------------------------------|---|-------------------------|
| F | getpositvalue                | F | isdefined               |
| F | getprepoststatevalues        | F | isdimen                 |
| F | getprimitivelegacies         | F | isfloat                 |
| F | getprimitiveorigins          | F | isglue                  |
| F | getprotrusionboundaryvalues  | F | ismuglue                |
| F | getregisterindex             | F | ismuskip                |
| F | getruleoptionvalues          | F | isprintable             |
| F | getrunstate                  | F | isskip                  |
| F | getrunstatevalues            | F | istoks                  |
| F | getsfcode                    | F | lastnodetype            |
| F | getshapingpenaltiesvalues    | F | linebreak               |
| F | getskip                      | D | linebreakstatecodes     |
| F | getsnappingvalues            | D | listanchorcodes         |
| F | getspacefactorvalues         | D | listgeometrycodes       |
| F | getspaceskipvalues           | D | listsigncodes           |
| F | getspcode                    | N | luacatcodes             |
| F | getspecialmathclassvalues    | F | mathchardef             |
| F | getspecification             | D | mathcontrolcodes        |
| F | getspecificationoptionvalues | D | mathoptioncodes         |
| F | gettextcontrolvalues         | D | mathparametercodes      |
| F | gettextdir                   | D | mathscriptordercodes    |
| F | gettoks                      | D | mathscriptsmodecodes    |
| F | getuccode                    | D | modes                   |
| F | getuleaderlocationvalues     | F | mprint                  |
| F | getunitclassvalues           | D | mvloptioncodes          |
| F | getusedmarks                 | N | nilcatcodes             |
| F | getvsplitcontextvalues       | D | noadoptoptioncodes      |
| D | glueoptioncodes              | D | normalizelinecodes      |
| D | glyphdisccodes               | D | normalizeparcodes       |
| D | glyphoptioncodes             | D | nospacesmodecodes       |
| D | groupcodes                   | N | notcatcodes             |
| F | hashtokens                   | F | number                  |
| N | hshcatcodes                  | D | paragraphfillmodecodes  |
| D | hyphenationcodes             | D | paragraphoptioncodes    |
| D | ifs                          | D | parcontextcodes         |
| N | inimatcodes                  | D | partriggercodes         |
| D | insertcategorycodes          | D | penaltyoptioncodes      |
| D | insertoptioncodes            | F | poplocal                |
| D | insertsplitcodes             | F | popsavelevel            |
| F | integerdef                   | F | positdef                |
| D | interactioncodes             | F | preparelinebreak        |
| F | isattribute                  | F | primitives              |
| F | isbox                        | F | print                   |
| F | iscount                      | D | protrusionboundarycodes |

|                     |                            |
|---------------------|----------------------------|
| N prtcategories     | F setinsertmaxplaced       |
| F pushlocal         | F setinsertmultiplier      |
| F pushsavelevel     | F setintegervalue          |
| F quitlocal         | F setinteraction           |
| F quittoks          | F setlccode                |
| F resetparagraph    | F setlinedir               |
| N rlnccategories    | F setlist                  |
| F romannumeral      | F setlocalbox              |
| F round             | F setmath                  |
| D ruleoptioncodes   | F setmathcode              |
| F runlocal          | F setmathdir               |
| D runstatecodes     | F setmuglue                |
| F runstring         | F setmuskip                |
| F runtoks           | F setnest                  |
| F saveboxresource   | F setoverloadstate         |
| F scale             | F setpardir                |
| F scantoks          | F setpositvalue            |
| F set               | F setrunstate              |
| F setamcode         | F setsfcode                |
| F setattribute      | F setskip                  |
| F setbalanceshape   | F setspcode                |
| F setbox            | F settextrdir              |
| F setboxdir         | F settoks                  |
| F setcardinalvalue  | F setuccode                |
| F setcatcode        | D shapingpenaltiescodes    |
| F setcccode         | F shiftparshape            |
| F setconditional    | F shipout                  |
| F setcount          | F showcontext              |
| F setdelcode        | D snappingcodes            |
| F setdimen          | F snapshotpar              |
| F setdimensionvalue | F sp                       |
| F setfloat          | D spacefactorcodes         |
| F setglue           | D spaceskipcodes           |
| F setglyphdata      | D specialmathclasscodes    |
| F setglyphscript    | D specificationoptioncodes |
| F setglyphstate     | F splitbox                 |
| F sethccode         | D splitcodes               |
| F sethcode          | F sprint                   |
| F setinputstatefile | F stringtocodesbitmap      |
| F setinputstateline | D systemmodes              |
| F setinputstatemode | F takebox                  |
| F setinsertcontent  | N texccategories           |
| F setinsertdistance | D textcontrolcodes         |
| F setinsertlimit    | F tonumber                 |

|                        |                      |            |
|------------------------|----------------------|------------|
| F                      | toscaled             |            |
| N                      | tpacatcodes          |            |
| N                      | tpbcacatcodes        |            |
| F                      | tprint               |            |
| F                      | trackedattribute     |            |
| D                      | trackers             |            |
| F                      | triggerbuildpage     |            |
| N                      | txtcatcodes          |            |
| F                      | uprint               |            |
| F                      | useboxresource       |            |
| D                      | userdiscoptioncodes  |            |
| D                      | userglyphoptioncodes |            |
| N                      | vrbcacatcodes        |            |
| F                      | write                |            |
| <b>texconditionals</b> |                      | data table |
| <b>texconfig</b>       |                      | table      |
| S                      | firstline            |            |
| S                      | formatname           |            |
| N                      | functionsiz          |            |
| F                      | init                 |            |
| B                      | kpse_init            |            |
| N                      | propertiessize       |            |
| S                      | shell_escape         |            |
| <b>texconstants</b>    |                      | data table |
| <b>texifs</b>          |                      | data table |
| <b>texio</b>           |                      | table      |
| F                      | closeinput           |            |
| F                      | forceendoffile       |            |
| F                      | getinputindex        |            |
| F                      | getselectorvalues    |            |
| F                      | getsourcefilename    |            |
| F                      | setlogfile           |            |
| F                      | terminal             |            |
| F                      | write                |            |
| F                      | write_nl             |            |
| F                      | writenl              |            |
| F                      | writeselector        |            |
| F                      | writeselectorlf      |            |
| F                      | writeselectornl      |            |
| <b>texisdefined</b>    |                      | data table |
| <b>texmodes</b>        |                      | data table |
| <b>texsystemmodes</b>  |                      | data table |
| <b>thirddata</b>       |                      | table      |
| <b>tobool</b>          |                      | function   |

|                  |                  |          |
|------------------|------------------|----------|
| <b>todecimal</b> |                  | function |
| <b>token</b>     |                  | table    |
| F                | create           |          |
| F                | expand           |          |
| F                | expand_macro     |          |
| F                | expandmacro      |          |
| F                | future_expand    |          |
| F                | futureexpand     |          |
| F                | get_active       |          |
| F                | get_cmdchr       |          |
| F                | get_cmdname      |          |
| F                | get_command      |          |
| F                | get_csname       |          |
| F                | get_cstoken      |          |
| F                | get_dimension    |          |
| F                | get_expandable   |          |
| F                | get_fields       |          |
| F                | get_flags        |          |
| F                | get_frozen       |          |
| F                | get_id           |          |
| F                | get_immutable    |          |
| F                | get_index        |          |
| F                | get_instance     |          |
| F                | get_integer      |          |
| F                | get_macro        |          |
| F                | get_meaning      |          |
| F                | get_noaligned    |          |
| F                | get_parameters   |          |
| F                | get_permanent    |          |
| F                | get_primitive    |          |
| F                | get_protected    |          |
| F                | get_range        |          |
| F                | get_tok          |          |
| F                | get_tolerant     |          |
| F                | getactive        |          |
| F                | getcmdchr        |          |
| F                | getcmdname       |          |
| F                | getcommand       |          |
| F                | getcommandvalues |          |
| F                | getconstant      |          |
| F                | getcsname        |          |
| F                | getcstoken       |          |
| F                | getdimension     |          |
| F                | getexpandable    |          |

|                      |                        |
|----------------------|------------------------|
| F getexpansion       | F peeknextexpanded     |
| F getfields          | F pop_macro            |
| F getflags           | F popmacro             |
| F getfrozen          | F push_macro           |
| F getfunctionvalues  | F pushmacro            |
| F getid              | F put_back             |
| F getimmutable       | F put_next             |
| F getindex           | F putback              |
| F getinstance        | F putnext              |
| F getinteger         | F save_lua             |
| F getlength          | F savelua              |
| F getmacro           | F scan_argument        |
| F getmeaning         | F scan_box             |
| F getnoaligned       | F scan_cardinal        |
| F getparameters      | F scan_char            |
| F getpermanent       | F scan_cmdchr          |
| F getprimitive       | F scan_cmdchr_expanded |
| F getprimitives      | F scan_code            |
| F getprotected       | F scan_csname          |
| F getrange           | F scan_delimited       |
| F gettok             | F scan_dimen           |
| F gettolerant        | F scan_float           |
| F gobble             | F scan_glue            |
| F gobble_dimension   | F scan_integer         |
| F gobble_integer     | F scan_key             |
| F gobbledimension    | F scan_keyword         |
| F gobbleinteger      | F scan_keyword_cs      |
| F grab               | F scan_letters         |
| F grabstring         | F scan_luacardinal     |
| F inhibit            | F scan_luainteger      |
| F is_defined         | F scan_luanumber       |
| F is_next_char       | F scan_next            |
| F is_token           | F scan_next_char       |
| F isactivestring     | F scan_next_expanded   |
| F isdefined          | F scan_real            |
| F isnextchar         | F scan_scale           |
| F istoken            | F scan_skip            |
| F locatemacro        | F scan_string          |
| F new                | F scan_token           |
| F peek_next          | F scan_token_code      |
| F peek_next_char     | F scan_tokenlist       |
| F peek_next_expanded | F scan_toks            |
| F peeknext           | F scan_value           |
| F peeknextchar       | F scan_word            |

|                         |                      |                 |
|-------------------------|----------------------|-----------------|
| F scanargument          | F set_integer        |                 |
| F scanbox               | F set_lua            |                 |
| F scancardinal          | F set_macro          |                 |
| F scanchar              | F setdimension       |                 |
| F scancmdchr            | F setinteger         |                 |
| F scancmdchrexplanded   | F setlua             |                 |
| F scancode              | F setmacro           |                 |
| F scanscname            | F setmacrofrommark   |                 |
| F scanctestoken         | F setmacrotonothing  |                 |
| F scandelimited         | F skip_next          |                 |
| F scandetokened         | F skip_next_expanded |                 |
| F scandimen             | F skipnext           |                 |
| F scandimenargument     | F skipnextexpanded   |                 |
| F scandimension         | F type               |                 |
| F scandimensionargument | F undefine_macro     |                 |
| F scanfloat             | F undefinemacro      |                 |
| F scanglue              | <b>tokens</b>        | <b>table</b>    |
| F scanint               | F astable            |                 |
| F scaninteger           | D cache              |                 |
| F scanintegerargument   | D commands           |                 |
| F scankey               | F compile            |                 |
| F scankeyword           | F constant           |                 |
| F scankeywordcs         | F create             |                 |
| F scanletters           | F defined            |                 |
| F scanluacardinal       | F flags              |                 |
| F scanluainteger        | F getinteger         |                 |
| F scanluanumber         | F gobble             |                 |
| F scannext              | F isactivestring     |                 |
| F scannextchar          | F isdefined          |                 |
| F scannextexpanded      | F istoken            |                 |
| F scanposit             | F new                |                 |
| F scanreal              | F pickup             |                 |
| F scanscale             | F popmacro           |                 |
| F scanskip              | F pushmacro          |                 |
| F scanstring            | F setinteger         |                 |
| F scantoken             | D values             |                 |
| F scantokencode         | <b>tonumber</b>      | <b>function</b> |
| F scantokenlist         | <b>tostring</b>      | <b>function</b> |
| F scantokenstring       | <b>tracers</b>       | <b>table</b>    |
| F scantoks              | F printerror         |                 |
| F scanvalue             | F printwarning       |                 |
| F scanword              | F showlines          |                 |
| F serialize             | <b>trackers</b>      | <b>table</b>    |
| F set_dimension         | D data               |                 |

|                    |          |                      |
|--------------------|----------|----------------------|
| F default          |          | F count              |
| F disable          |          | F filetype           |
| F dumphashtofile   |          | F is_valid           |
| F enable           |          | F len                |
| F list             |          | F length             |
| S name             |          | F lower              |
| F register         |          | F remapper           |
| F report           |          | F replacer           |
| F reset            |          | F split              |
| F savehash         |          | F splitlines         |
| F show             |          | F sub                |
| F value            |          | F substituter        |
| F values           |          | F tocodes            |
| <b>type</b>        | function | F toeight            |
| <b>typesetters</b> | table    | F toentities         |
| F marksuspects     |          | F toString           |
| F showinvisibles   |          | F totable            |
| F showsuspects     |          | F upper              |
| <b>unpack</b>      | function | F ustring            |
| <b>updaters</b>    | table    | F utf16_to_utf8_be   |
| F apply            |          | F utf16_to_utf8_be_t |
| F register         |          | F utf16_to_utf8_le   |
| <b>url</b>         | table    | F utf16_to_utf8_le_t |
| F addscheme        |          | F utf16_to_utf8_t    |
| F barepath         |          | F utf32_to_utf8_be   |
| F construct        |          | F utf32_to_utf8_be_t |
| F decode           |          | F utf32_to_utf8_le   |
| F encode           |          | F utf32_to_utf8_le_t |
| F escape           |          | F utf32_to_utf8_t    |
| F filename         |          | F utf8_to_utf16      |
| F hashed           |          | F utf8_to_utf16_be   |
| F hasscheme        |          | F utf8_to_utf16_le   |
| F query            |          | F utf8_to_utf8_t     |
| F split            |          | F values             |
| F toquery          |          | F xstring            |
| F unescape         |          | <b>utf8</b>          |
| F unescapeget      |          | F char               |
| <b>userdata</b>    | table    | S charpattern        |
| <b>utf</b>         | table    | F codepoint          |
| F byte             |          | F codes              |
| F bytewidth        |          | F len                |
| F char             |          | F offset             |
| F characters       |          | <b>utilities</b>     |
| F chrln            |          | <b>vector</b>        |
|                    |          | table                |
|                    |          | table                |

F add  
F append  
F average  
F ceiling  
F checkoverlap  
F collectoverlap  
F concat  
F copy  
F crossproduct  
F delete  
F determinant  
F div  
F equal  
F exchange  
F floor  
F get  
F getdimensions  
F getepsilon  
F getmemory  
F getmesh  
F getrc  
F getrow  
F getsize  
F getstacking  
F gettype  
F homogenize  
F identity  
F inner  
F insert  
F inverse  
F ismesh  
F ispoints  
F issingular  
F isvector  
F iszero  
F meshname  
F mul  
F negate  
F new  
F normalize  
F onecolumn  
F onerow  
F product  
F remove

F replace  
F round  
F rowechelon  
F set  
F setepsilon  
F setnext  
F setrc  
F setstacking  
F slice  
F sort  
F sub  
F swap  
F toString  
F totable  
F transpose  
F triangulate  
F truncate  
F type

## visualizers

## table

D escapepatterns  
F getspecification  
F getvisualizer  
F load  
F makenested  
F makepattern  
F newgrammar  
F newhandler  
F parsedxml  
F pattern  
F register  
F registerescapecommand  
F registerescapeline  
F registerescapepattern  
S signal  
U signalpattern  
D specifications  
F visualize  
F visualizebuffer  
F visualizefile  
F visualizestring  
F write  
F writeargument  
F writedefault  
F writeemptyline

|                 |                 |                 |              |
|-----------------|-----------------|-----------------|--------------|
| F writenewline  |                 | F toString      |              |
| F whitespace    |                 | F totable       |              |
| <b>warn</b>     | <b>function</b> | F voigt         |              |
| <b>xcomplex</b> | <b>table</b>    | F voigt_hwhm    |              |
| F I             |                 | <b>xdecimal</b> | <b>table</b> |
| F __add         |                 | F __add         |              |
| F __div         |                 | F __band        |              |
| F __eq          |                 | F __bor         |              |
| F __mul         |                 | F __bxor        |              |
| S __name        |                 | F __div         |              |
| F __pow         |                 | F __eq          |              |
| F __sub         |                 | F __idiv        |              |
| F __toString    |                 | F __le          |              |
| F __unm         |                 | F __lt          |              |
| F abs           |                 | F __mod         |              |
| F acos          |                 | F __mul         |              |
| F acosh         |                 | S __name        |              |
| F arg           |                 | F __pow         |              |
| F asin          |                 | F __shl         |              |
| F asinh         |                 | F __shr         |              |
| F atan          |                 | F __sub         |              |
| F atanh         |                 | F __toString    |              |
| F conj          |                 | F __unm         |              |
| F cos           |                 | F abs           |              |
| F cosh          |                 | F band          |              |
| F dawson        |                 | F bor           |              |
| F erf           |                 | F bxor          |              |
| F erfc          |                 | F conj          |              |
| F erfcx         |                 | F copy          |              |
| F erfi          |                 | F exp           |              |
| F exp           |                 | F getprecision  |              |
| F i             |                 | F ln            |              |
| F imag          |                 | F log           |              |
| F log           |                 | F max           |              |
| F new           |                 | F min           |              |
| F pow           |                 | F minus         |              |
| F proj          |                 | F new           |              |
| F real          |                 | F plus          |              |
| F sin           |                 | F pow           |              |
| F sinh          |                 | F rotate        |              |
| F sqrt          |                 | F setprecision  |              |
| F tan           |                 | F shift         |              |
| F tanh          |                 | F sqrt          |              |
| F topair        |                 | F toengstring   |              |

F tonumber  
F toString  
F trim  
**xinterval**  
F \_\_add  
F \_\_div  
F \_\_eq  
F \_\_le  
F \_\_lt  
F \_\_mod  
F \_\_mul  
S \_\_name  
F \_\_pow  
F \_\_sub  
F \_\_toString  
F \_\_unm  
F abs  
F acos  
F acosh  
F asin  
F asinh  
F asstring  
F atan  
F atanh  
F cos  
F cosh  
F diameter  
F equal  
F erf  
F erfc  
F exp  
F exp10  
F exp2  
F expm1  
F greater  
F greaterequal  
F hull  
F intersect  
F less  
F lessequal  
F log  
F log10  
F log1p  
F log2

table

F mid  
F mod  
F new  
F neweps  
F pow  
F seteq  
F setge  
F setgt  
F settle  
F settl  
F sin  
F sinh  
F sqr  
F sqrt  
F tan  
F tanh  
F topair  
F toString  
F totable  
F usedendian  
F within

**xmath**

F acos  
F acosh  
F asin  
F asinh  
F atan  
F atan2  
F atanh  
F cbrt  
F ceil  
F copysign  
F cos  
F cosh  
F crossproduct  
F deg  
F dotproduct  
F erf  
F erfc  
F exp  
F exp2  
F expm1  
F fabs  
F fdim

table

F floor  
F fma  
F fmax  
F fmin  
F fmod  
F frexp  
F gamma  
F hypot  
N inf  
F isfinite  
F isinf  
F isnan  
F isnormal  
F j0  
F j1  
F jn  
F ldexp  
F lgamma  
F log  
F log10  
F log1p  
F log2  
F logb  
F modf  
N nan  
F nearbyint  
F nextafter  
F normalize  
N pi  
F pow  
F rad  
F remainder  
F remquo  
F round  
F scalbn  
F sin  
F sinh  
F sqrt  
F tan  
F tanh  
F tgamma  
F trunc  
F y0  
F y1

F yn  
**xml**  
F addentitiesdoctype  
F addspecialcode  
F after  
F all  
F applylpath  
F applyselector  
F assign  
F attribute  
F badinclusions  
F before  
F body  
F cdata  
F cdatatotext  
F checkbom  
F checkedempty  
F checkerror  
F checknamespace  
F checkns  
F cleansed  
F collect  
F collect\_elements  
F collect\_tags  
F collect\_texts  
F collected  
F collecttexts  
F compactelement  
F content  
F convert  
F copy  
F count  
F cprint  
S defaultprotocol  
F delete  
F delete\_element  
F despecialized  
F each  
F each\_element  
F elements  
F elementtocdata  
F empty  
D entities  
F erase

table

|                         |                       |
|-------------------------|-----------------------|
| F errorhandler          | F nodesettostring     |
| F escaped               | F originalload        |
| F expand                | F package             |
| F fillin                | F parent              |
| F filter                | U parsedentitylpeg    |
| F first                 | F popmatch            |
| F found                 | F position            |
| F getbuffer             | D privatecodes        |
| F gethandlers           | F privatetoken        |
| F gethandlersfunction   | F process             |
| F include               | F process_attributes  |
| F inclusion             | F process_elements    |
| F inclusions            | F processattributes   |
| F index                 | F pure                |
| F inheritattributes     | F pushmatch           |
| F inheritedconvert      | F raw                 |
| F inject                | F registerentity      |
| F inject_element        | F registerns          |
| F inject_element_after  | F reindex             |
| F inject_element_before | F remap_name          |
| F injectafter           | F remap_namespace     |
| F injectbefore          | F remap_tag           |
| F insert                | F remapname           |
| F insert_element        | F remapnamespace      |
| F insert_element_after  | F remaptag            |
| F insert_element_before | F rename              |
| F insertafter           | F renamespace         |
| F insertbefore          | U reparsedentitylpeg  |
| F insertcdata           | F replace             |
| F insertcomment         | F replace_element     |
| F inspect               | F resetinjectors      |
| F is_valid              | F resolvens           |
| F kind                  | F root                |
| F last                  | F save                |
| F lastmatch             | F selection           |
| F load                  | F separate            |
| F lpath                 | F serialize           |
| F lpathcached           | F serializetotext     |
| F lpathcalls            | F setcdata            |
| F lshow                 | F setcomment          |
| F makestandalone        | F sethandlersfunction |
| F match                 | F setinjectors        |
| F name                  | F setproperty         |
| F newhandlers           | F settings            |

D specialcodes  
F sprint  
F string  
F strip  
F strip\_whitespace  
F stripelement  
F stripleadingspaces  
F table  
F text  
F textonly  
F texttocdata  
F tocdata  
F toelement  
F toString  
F totable  
F toxml  
F tprint  
F traverse  
F unescaped  
U unescapedentitylpeg  
F unprivatized  
F unspecialized  
F wipe  
F withelement  
F withelements  
F wrap

**xpcall** function

**xzip** table

F adler32  
F compress  
F compresssize  
F crc32  
F decompress  
F decompresssize

**zbuffer** table

F bounds  
F composite  
F crop  
F edgepoint  
F flatten  
F get  
F getcolor

F getdepth  
F getnormal  
F getopacity  
F getsize  
F implicit  
F iszbuffer  
F meshmesh  
F new  
F points  
F process  
F project  
F resolve  
F set  
F setcolor  
F setdepth  
F setnormal  
F setopacity  
F setup  
F smoothen  
F stipple\_0  
F stipple\_1  
F stipple\_2  
F stipple\_3  
F stipple\_4  
F stipple\_setup  
F tobytes  
F toString  
F totable  
F transform  
F trianglebounds  
F triangles  
F type

**zip** table

F closearchive  
F openarchive

**zlib** table

F adler32  
F compress  
F compresssize  
F crc32  
F decompress  
F decompresssize

# graphics (context)

## **backgrounds**

table

- F fetchmultipar
- F pair
- F path
- F point

## **bitmaps**

table

- F flush
- F load
- F new
- F placeholder
- F tocontext

## **bpsize**

function

## **colorspaces**

table

## **identifiers**

table

- F bitmap
- F jp2
- F jpeg
- F jpg
- F png

## **identify**

function

## **registerpdfcompactor**

function

## **registerpdffont**

function

## **synchronizers**

table

- F collapse
- F collect
- F extend
- F getbottom
- F getd
- F geth
- F getkind
- F getsize
- F gettask
- F gettop
- F getw
- F getx
- F gety
- F prune

## gzip (context)

**compress** function  
**compressed** function  
**decompress** function

**load** function  
**save** function  
**suffix** function

## helper (context)

**getprofile** function  
**mathnested** function  
**mathprocess** function  
**mathstep** function  
**snapindeed** function

**snaplist** function  
**traversecharmethod** function  
**traverseglyphmethod** function  
**traversehorizontal** function  
**traversevertical** function

# images (context)

|                       |          |                  |          |
|-----------------------|----------|------------------|----------|
| <b>check</b>          | function | B crop           |          |
| <b>checksize</b>      | function | B media          |          |
| <b>copy</b>           | function | B none           |          |
| <b>create</b>         | function | B trim           |          |
| <b>embed</b>          | function | <b>storedata</b> | function |
| <b>embedfromstore</b> | function | <b>totable</b>   | function |
| <b>fetchdata</b>      | function | <b>types</b>     | table    |
| <b>keys</b>           | table    | N jbig2          |          |
| <b>print</b>          | function | N jp2            |          |
| <b>resetdata</b>      | function | N jpg            |          |
| <b>resetstore</b>     | function | N none           |          |
| <b>scan</b>           | function | N pdf            |          |
| <b>serialize</b>      | function | N png            |          |
| <b>sizes</b>          | table    | N stream         |          |
| B art                 |          | <b>wrap</b>      | function |
| B bleed               |          |                  |          |

# interactions (context)

**attachments** data table

**fields** table

F clone

F define

F defineset

F insert

**general** table

F getidentity

F getidentityvariable

**help** table

F collect

F reference

F register

**javascripts** table

F addtopreamble

F code

D codes

F flushpreambles

D functions

D preambles

F setpreamble

F storecode

F storepreamble

F usepreamblenow

F usescripts

**linkedList** data table

**pages** table

F setpagetransition

F setupcanvas

**references** table

F setcloseddocumentaction

F setclosepageaction

F setopendocumentaction

F setopenpageaction

**renderings** data table

# interfaces (context)

|                             |            |                          |            |
|-----------------------------|------------|--------------------------|------------|
| <b>arrays</b>               | table      | <b>namesofscanners</b>   | table      |
| <b>cachedsetups</b>         | data table | <b>namespaces</b>        | table      |
| <b>cachesetup</b>           | function   | F define                 |            |
| <b>cardinals</b>            | table      | F list                   |            |
| <b>checkedspecification</b> | function   | <b>numbers</b>           | table      |
| <b>complete</b>             | data table | <b>registernamespace</b> | function   |
| <b>constants</b>            | data table | <b>registerscanner</b>   | function   |
| <b>corenamespaces</b>       | data table | <b>scanners</b>          | data table |
| <b>currentinterface</b>     | string     | <b>setconstant</b>       | function   |
| <b>currentresponse</b>      | string     | <b>setcount</b>          | function   |
| <b>definecommand</b>        | function   | <b>setdimen</b>          | function   |
| <b>defined</b>              | function   | <b>setelement</b>        | function   |
| <b>doifelsemessage</b>      | function   | <b>setformat</b>         | function   |
| <b>elements</b>             | data table | <b>setmacro</b>          | function   |
| <b>floats</b>               | table      | <b>setmessage</b>        | function   |
| <b>formats</b>              | data table | <b>setmessages</b>       | function   |
| <b>getmessage</b>           | function   | <b>settranslation</b>    | function   |
| <b>getnamespace</b>         | function   | <b>setupstrings</b>      | data table |
| <b>getsetupstring</b>       | function   | <b>setvariable</b>       | function   |
| <b>hashedsetups</b>         | data table | <b>showmessage</b>       | function   |
| <b>implement</b>            | function   | <b>storedscanners</b>    | data table |
| <b>integers</b>             | table      | <b>tolist</b>            | function   |
| <b>interfacedcommand</b>    | function   | <b>translations</b>      | data table |
| <b>interfaces</b>           | table      | <b>usednamespaces</b>    | data table |
| <b>knownscanner</b>         | function   | <b>variables</b>         | data table |
| <b>message</b>              | function   | <b>writestatus</b>       | function   |
| <b>nameofscanner</b>        | function   |                          |            |

## io (basic lua)

|                      |                     |                      |                     |
|----------------------|---------------------|----------------------|---------------------|
| <b>ask</b>           | function            | <b>open</b>          | overloaded function |
| <b>bytes</b>         | function            | <b>output</b>        | overloaded function |
| <b>characters</b>    | function            | <b>pathseparator</b> | string              |
| <b>close</b>         | function            | <b>popen</b>         | overloaded function |
| <b>copydata</b>      | function            | <b>read</b>          | function            |
| <b>exists</b>        | function            | <b>readall</b>       | function            |
| <b>fileseparator</b> | string              | <b>readnumber</b>    | function            |
| <b>flush</b>         | function            | <b>readstring</b>    | function            |
| <b>gobble</b>        | function            | <b>savedata</b>      | function            |
| <b>input</b>         | overloaded function | <b>size</b>          | function            |
| <b>lines</b>         | overloaded function | <b>stderr</b>        | userdata            |
| <b>loadchunk</b>     | function            | <b>stdin</b>         | userdata            |
| <b>loaddata</b>      | function            | <b>stdout</b>        | userdata            |
| <b>loadlines</b>     | function            | <b>tmpfile</b>       | function            |
| <b>newreader</b>     | function            | <b>type</b>          | function            |
| <b>noflines</b>      | function            | <b>write</b>         | function            |

# job (context)

|                          |          |                    |       |
|--------------------------|----------|--------------------|-------|
| <b>comment</b>           | function | D collected        |       |
| <b>datasets</b>          | table    | F countervalue     |       |
| D collected              |          | F extend           |       |
| F extend                 |          | F realpage         |       |
| F getdata                |          | F realpageorder    |       |
| F setdata                |          | F setstate         |       |
| D tobesaved              |          | D tobesaved        |       |
| <b>disablesave</b>       | function | <b>parwrappers</b> | table |
| <b>embedded</b>          | table    | D collected        |       |
| D collected              |          | D tobesaved        |       |
| D tobesaved              |          | <b>positions</b>   | table |
| <b>fileobjreferences</b> | table    | F b_column         |       |
| D collected              |          | F b_region         |       |
| D tobesaved              |          | F c                |       |
| <b>files</b>             | table    | D collected        |       |
| D collected              |          | F column           |       |
| F context                |          | F columnofpos      |       |
| B forcerun               |          | F copy             |       |
| F run                    |          | F depth            |       |
| D tobesaved              |          | F e_column         |       |
| <b>getrandomseed</b>     | function | F e_region         |       |
| <b>initialize</b>        | function | F enhance          |       |
| <b>linkedlists</b>       | table    | F extra            |       |
| D collected              |          | F get              |       |
| D tobesaved              |          | F getcolumndata    |       |
| <b>load</b>              | function | F getfree          |       |
| <b>loadother</b>         | function | F gethpos          |       |
| <b>meshedup</b>          | table    | F gethvrpos        |       |
| D collected              |          | F getpos           |       |
| D tobesaved              |          | F getreserved      |       |
| <b>objects</b>           | table    | F getrpos          |       |
| D collected              |          | F getsync          |       |
| F get                    |          | F gettobesaved     |       |
| F number                 |          | F getvpos          |       |
| F page                   |          | F hangafter        |       |
| F save                   |          | F hangindent       |       |
| F set                    |          | F height           |       |
| D tobesaved              |          | F hsize            |       |
| <b>pack</b>              | boolean  | N lastr            |       |
| <b>packversion</b>       | number   | N lastx            |       |
| <b>pagestates</b>        | table    | N lasty            |       |

|                    |                  |          |
|--------------------|------------------|----------|
| F leftskip         | F upperleft      |          |
| F lowerleft        | F upperright     |          |
| F lowerright       | F used           |          |
| F markregionbox    | F whd            |          |
| F n                | F width          |          |
| F onsamepage       | F x              |          |
| F overlapping      | F xy             |          |
| F p                | F y              |          |
| F page             | <b>register</b>  | function |
| F paragraph        | <b>save</b>      | function |
| F parindent        | <b>structure</b> | table    |
| F position         | D collected      |          |
| F r                | <b>variables</b> | table    |
| F region           | D checksums      |          |
| F registerhandlers | D collected      |          |
| F replace          | F getchecksum    |          |
| F rightskip        | F makechecksum   |          |
| F set              | F restore        |          |
| F setall           | F save           |          |
| F setregionbox     | F setchecksum    |          |
| F setspec          | D tobesaved      |          |
| F settobesaved     | <b>version</b>   | number   |
| D tobesaved        |                  |          |

## language (basic tex)

|                         |          |                         |          |
|-------------------------|----------|-------------------------|----------|
| <b>clean</b>            | function | <b>id</b>               | function |
| <b>clearhyphenation</b> | function | <b>new</b>              | function |
| <b>clearpatterns</b>    | function | <b>patterns</b>         | function |
| <b>current</b>          | function | <b>postexhyphenchar</b> | function |
| <b>gethjcode</b>        | function | <b>posthyphenchar</b>   | function |
| <b>has_language</b>     | function | <b>preexhyphenchar</b>  | function |
| <b>hyphenate</b>        | function | <b>prehyphenchar</b>    | function |
| <b>hyphenation</b>      | function | <b>sethjcode</b>        | function |
| <b>hyphenationmin</b>   | function | <b>setwordhandler</b>   | function |

# languages (context)

|                        |            |                                 |            |
|------------------------|------------|---------------------------------|------------|
| <b>addgoodiesdata</b>  | function   | <b>numbers</b>                  | data table |
| <b>addgoodiesfile</b>  | function   | <b>pdflanguage</b>              | function   |
| <b>appliedoptions</b>  | table      | <b>postexhyphenchar</b>         | function   |
| <b>associate</b>       | function   | <b>posthyphenchar</b>           | function   |
| <b>associated</b>      | data table | <b>preexhyphenchar</b>          | function   |
| <b>association</b>     | function   | <b>prehyphenchar</b>            | function   |
| <b>counters</b>        | data table | <b>registered</b>               | data table |
| <b>current</b>         | function   | <b>registeredaactions</b>       | table      |
| <b>data</b>            | data table | <b>replacements</b>             | table      |
| <b>decimals</b>        | data table | F add                           |            |
| <b>define</b>          | function   | F addlist                       |            |
| <b>explicitthyphen</b> | function   | F handler                       |            |
| <b>exportlanguage</b>  | function   | F set                           |            |
| <b>flatten</b>         | function   | <b>serializediscretionary</b>   | function   |
| <b>frequencies</b>     | table      | <b>setexceptions</b>            | function   |
| F averagecharwidth     |            | <b>setgoodieshandler</b>        | function   |
| F getdata              |            | <b>setoptions</b>               | function   |
| <b>getdata</b>         | function   | <b>setpatterns</b>              | function   |
| <b>getmetadata</b>     | function   | <b>setsynonym</b>               | function   |
| <b>getnumber</b>       | function   | <b>setwordhandler</b>           | function   |
| <b>goodiefiles</b>     | function   | <b>showdiscretionaries</b>      | function   |
| <b>hjcounts</b>        | table      | <b>strippedgoodiewords</b>      | function   |
| <b>hyphenate</b>       | function   | <b>tolang</b>                   | function   |
| <b>hyphenators</b>     | table      | <b>transliteration</b>          | table      |
| D featuresets          |            | F exception                     |            |
| F handler              |            | F handler                       |            |
| F popmethod            |            | F register                      |            |
| F pushmethod           |            | F set                           |            |
| F setmethod            |            | F use                           |            |
| F setup                |            | <b>unload</b>                   | function   |
| F showhyphenationtrace |            | <b>urls</b>                     | table      |
| <b>installed</b>       | function   | D characters                    |            |
| <b>installhandler</b>  | function   | N lefthyphenmin                 |            |
| <b>labels</b>          | table      | D mapping                       |            |
| F define               |            | B packslashes                   |            |
| F split                |            | N righthyphenmin                |            |
| <b>loadable</b>        | function   | F setcharacters                 |            |
| <b>loadwords</b>       | function   | <b>version</b>                  | number     |
| <b>logger</b>          | table      | <b>visualizediscretionaries</b> | function   |
| F report               |            | <b>words</b>                    | table      |
| <b>nofflattened</b>    | function   | F check                         |            |

F disable  
F enable  
B enables

F found  
F load  
N threshold

# layouts (context)

**getcanvas**           function  
**getpagedimensions** function  
**setupcanvas**        function

**status**             table  
    F isleftpage  
    F lefttorrightpageaction

## lfs (extra lua)

|                        |                     |                      |                     |
|------------------------|---------------------|----------------------|---------------------|
| <b>attributes</b>      | overloaded function | <b>link</b>          | overloaded function |
| <b>chdir</b>           | overloaded function | <b>mkdir</b>         | overloaded function |
| <b>currentdir</b>      | function            | <b>mkdirs</b>        | function            |
| <b>dir</b>             | overloaded function | <b>modification</b>  | function            |
| <b>isdir</b>           | overloaded function | <b>readlink</b>      | function            |
| <b>isfile</b>          | overloaded function | <b>rmdir</b>         | overloaded function |
| <b>isfound</b>         | function            | <b>setexecutable</b> | function            |
| <b>isreadabledir</b>   | function            | <b>symlink</b>       | function            |
| <b>isreadablefile</b>  | function            | <b>symlinktarget</b> | function            |
| <b>iswriteabledir</b>  | function            | <b>touch</b>         | overloaded function |
| <b>iswriteablefile</b> | function            | <b>walkdir</b>       | function            |

## libraries (context)

**basiclua** data table

**basictex** data table

**builtin** data table

**extralua** data table

**extratex** data table

**functions** data table

**globals** data table

**optional** data table

# lrx (context)

|                          |          |                           |          |
|--------------------------|----------|---------------------------|----------|
| <b>color</b>             | function | <b>lrxfile</b>            | function |
| <b>convert</b>           | function | <b>loadedfile</b>         | function |
| <b>convertfile</b>       | function | <b>make</b>               | function |
| <b>convertstring</b>     | function | <b>new</b>                | function |
| <b>einject</b>           | function | <b>popupfile</b>          | function |
| <b>eprint</b>            | function | <b>print</b>              | function |
| <b>escape</b>            | function | <b>pv</b>                 | function |
| <b>finalized</b>         | function | <b>report</b>             | function |
| <b>finject</b>           | function | <b>reset</b>              | function |
| <b>fprint</b>            | function | <b>result</b>             | function |
| <b>get</b>               | function | <b>set</b>                | function |
| <b>getvariables</b>      | function | <b>show</b>               | function |
| <b>htmfile</b>           | function | <b>stripcss</b>           | function |
| <b>html</b>              | table    | <b>tv</b>                 | function |
| F a                      |          | <b>type</b>               | function |
| F td                     |          | <b>urlescape</b>          | function |
| F th                     |          | <b>variable</b>           | function |
| <b>include</b>           | function | <b>variables</b>          | table    |
| <b>inherited</b>         | table    | S color-background-blue   |          |
| S color-background-four  |          | S color-background-body   |          |
| S color-background-one   |          | S color-background-green  |          |
| S color-background-three |          | S color-background-main   |          |
| S color-background-two   |          | S color-background-purple |          |
| S title                  |          | S color-background-yellow |          |
| <b>initialize</b>        | function | S title-default           |          |
| <b>inject</b>            | function |                           |          |

# logs (context)

|                             |          |                          |          |
|-----------------------------|----------|--------------------------|----------|
| <b>application</b>          | function | <b>setformats</b>        | function |
| <b>categories</b>           | function | <b>setformatters</b>     | function |
| <b>direct</b>               | function | <b>setlogfile</b>        | function |
| <b>disable</b>              | function | <b>setmessenger</b>      | function |
| <b>enable</b>               | function | <b>setprocessor</b>      | function |
| <b>finalactions</b>         | function | <b>settarget</b>         | function |
| <b>flush</b>                | function | <b>settimedlog</b>       | function |
| <b>loggingerrors</b>        | function | <b>settranslations</b>   | function |
| <b>messenger</b>            | function | <b>show</b>              | function |
| <b>new</b>                  | function | <b>start_page_number</b> | function |
| <b>newline</b>              | function | <b>start_run</b>         | function |
| <b>poplogfile</b>           | function | <b>starterrorlogging</b> | function |
| <b>poptarget</b>            | function | <b>startfilelogging</b>  | function |
| <b>private</b>              | table    | <b>status</b>            | function |
| F enablepagetiming          |          | <b>stop_page_number</b>  | function |
| F getpagetiming             |          | <b>stoperrorlogging</b>  | function |
| <b>pushlogfile</b>          | function | <b>stopfilelogging</b>   | function |
| <b>pushtarget</b>           | function | <b>subdirect</b>         | function |
| <b>registerfinalactions</b> | function | <b>subreport</b>         | function |
| <b>report</b>               | function | <b>system</b>            | function |
| <b>reporter</b>             | function | <b>texerrormessage</b>   | function |
| <b>resetlogfile</b>         | function | <b>writer</b>            | function |

# lpdf (context)

|                                |            |                                 |          |
|--------------------------------|------------|---------------------------------|----------|
| <b>action</b>                  | function   | <b>copystring</b>               | function |
| <b>adddocumentcolorspace</b>   | function   | <b>copyunicode</b>              | function |
| <b>adddocumenttextgstate</b>   | function   | <b>deferredobject</b>           | function |
| <b>adddocumentpattern</b>      | function   | <b>delayedobject</b>            | function |
| <b>adddocumentshade</b>        | function   | <b>destinationspecification</b> | function |
| <b>addtocatalog</b>            | function   | <b>dictionary</b>               | function |
| <b>addtoinfo</b>               | function   | <b>docstring</b>                | function |
| <b>addtonames</b>              | function   | <b>encodingvalues</b>           | table    |
| <b>addtopageattributes</b>     | function   | N base16                        |          |
| <b>addtopageresources</b>      | function   | N base85                        |          |
| <b>addtopagesattributes</b>    | function   | N decoded                       |          |
| <b>addxmpinfo</b>              | function   | N encoded                       |          |
| <b>annotationspecification</b> | function   | N plain                         |          |
| <b>array</b>                   | function   | N utf16be                       |          |
| <b>attachmentsymbols</b>       | function   | N utf16le                       |          |
| <b>boolean</b>                 | function   | <b>endpoints</b>                | table    |
| <b>border</b>                  | function   | S Div                           |          |
| <b>checkedkey</b>              | function   | S Part                          |          |
| <b>checkedresources</b>        | function   | S Sect                          |          |
| <b>checkedvalue</b>            | function   | <b>epdf</b>                     | table    |
| <b>circularshade</b>           | function   | F allcontent                    |          |
| <b>close</b>                   | function   | F analyzefonts                  |          |
| <b>cmykcode</b>                | function   | F contentplugin                 |          |
| <b>collectedresources</b>      | function   | F contenttostring               |          |
| <b>color</b>                   | function   | F contenttotext                 |          |
| <b>colorspace</b>              | function   | D encryptioncodes               |          |
| <b>colorspaceconstants</b>     | data table | F expanded                      |          |
| <b>colorspec</b>               | function   | F expandwidths                  |          |
| <b>colorvalue</b>              | function   | F fontplugin                    |          |
| <b>colorvalues</b>             | function   | F getpagecontent                |          |
| <b>commentsymbols</b>          | function   | F getstructure                  |          |
| <b>compressdata</b>            | function   | F load                          |          |
| <b>compresslevel</b>           | function   | F mergewidths                   |          |
| <b>constant</b>                | function   | D objectcodes                   |          |
| <b>copyarray</b>               | function   | F objectrange                   |          |
| <b>copyboolean</b>             | function   | F objecttype                    |          |
| <b>copyconstant</b>            | function   | F pageplugin                    |          |
| <b>copydictionary</b>          | function   | F parsecontent                  |          |
| <b>copyfloat</b>               | function   | F producer                      |          |
| <b>copyinteger</b>             | function   | F unload                        |          |
| <b>copynumber</b>              | function   | F verboseobject                 |          |

|                               |            |                            |          |
|-------------------------------|------------|----------------------------|----------|
| <b>escaped</b>                | function   | S \                        |          |
| <b>finalizedocument</b>       | function   | <b>h_hex_4</b>             | table    |
| <b>finalizepage</b>           | function   | <b>hasmatrix</b>           | function |
| <b>finalizesignature</b>      | function   | <b>immediateobject</b>     | function |
| <b>finishtransparencycode</b> | function   | <b>includeimage</b>        | function |
| <b>flags</b>                  | table      | <b>initialize</b>          | function |
| <b>flushfonts</b>             | function   | <b>injectors</b>           | table    |
| <b>flushgroup</b>             | function   | F bitmap                   |          |
| <b>flushobject</b>            | function   | F jp2                      |          |
| <b>flushstreamfileobject</b>  | function   | F jpg                      |          |
| <b>flushstreamobject</b>      | function   | F png                      |          |
| <b>fonts</b>                  | table      | <b>injectxmpinfo</b>       | function |
| F color_direct                |            | <b>insertxmpinfo</b>       | function |
| F color_indirect              |            | <b>lastreferredpage</b>    | function |
| <b>formats</b>                | data table | <b>layerreference</b>      | function |
| <b>frombytes</b>              | function   | <b>limited</b>             | function |
| <b>fromeight</b>              | function   | <b>linearshade</b>         | function |
| <b>frompdfdoc</b>             | function   | <b>literal</b>             | function |
| <b>fromsixteen</b>            | function   | <b>majorversion</b>        | function |
| <b>getcatalog</b>             | function   | <b>makenametree</b>        | function |
| <b>getcompression</b>         | function   | <b>minorversion</b>        | function |
| <b>getfontname</b>            | function   | <b>noffontregistries</b>   | function |
| <b>getfontobjectnumber</b>    | function   | <b>nofpages</b>            | function |
| <b>getformatoption</b>        | function   | <b>null</b>                | function |
| <b>getinfo</b>                | function   | <b>number</b>              | function |
| <b>getmatrix</b>              | function   | <b>object</b>              | function |
| <b>getnofpages</b>            | function   | <b>objectcompresslevel</b> | function |
| <b>getpageproperties</b>      | function   | <b>pagereference</b>       | function |
| <b>getpagereference</b>       | function   | <b>patternstream</b>       | function |
| <b>getpagetags</b>            | function   | <b>pdfcolor</b>            | function |
| <b>getpos</b>                 | function   | <b>pdftimestamp</b>        | function |
| <b>gettaggingstatus</b>       | function   | <b>permissions</b>         | table    |
| <b>gettrailerid</b>           | function   | N access                   |          |
| <b>getversion</b>             | function   | N add                      |          |
| <b>getxformname</b>           | function   | N assemble                 |          |
| <b>graycode</b>               | function   | N extract                  |          |
| <b>h_hex_2</b>                | table      | N fillin                   |          |
| S                             |            | N modify                   |          |
| S                             |            | N print                    |          |
| S                             |            | N quality                  |          |
| S                             |            | <b>preparesignature</b>    | function |
| S                             |            | <b>print</b>               | function |
| S (                           |            | <b>procset</b>             | function |
| S )                           |            | <b>protectresources</b>    | boolean  |

|                                  |          |                               |            |
|----------------------------------|----------|-------------------------------|------------|
| <b>quads</b>                     | function | <b>splitsixteen</b>           | function   |
| <b>rectangle</b>                 | function | <b>spotcode</b>               | function   |
| <b>reference</b>                 | function | <b>stream</b>                 | function   |
| <b>registerannotation</b>        | function | <b>string</b>                 | function   |
| <b>registerdestination</b>       | function | <b>supportedformats</b>       | function   |
| <b>registerdocumentfinalizer</b> | function | <b>tocidset</b>               | function   |
| <b>registerfontmethod</b>        | function | <b>toeight</b>                | function   |
| <b>registerinitializer</b>       | function | <b>topdfdoc</b>               | function   |
| <b>registerpagefinalizer</b>     | function | <b>topermissions</b>          | function   |
| <b>registerpattern</b>           | function | <b>tosixteen</b>              | function   |
| <b>registersignature</b>         | function | <b>transparency</b>           | function   |
| <b>replacexmpinfo</b>            | function | <b>transparencycode</b>       | function   |
| <b>reserveobject</b>             | function | <b>transparencygroups</b>     | table      |
| <b>rgbcode</b>                   | function | B none                        |            |
| <b>rotationcm</b>                | function | <b>transparencyvalue</b>      | function   |
| <b>setcompression</b>            | function | <b>unicode</b>                | function   |
| <b>setencryption</b>             | function | <b>usedcharacters</b>         | table      |
| <b>setpageorder</b>              | function | <b>usedfontnames</b>          | table      |
| <b>setpagestate</b>              | function | N dejavusansmonoboldttf-1-0-0 |            |
| <b>setpagetag</b>                | function | <b>usedfontobjects</b>        | table      |
| <b>setutfstringmode</b>          | function | N dejavusansmonoboldttf-1-0-0 |            |
| <b>setversion</b>                | function | <b>usedfontstreams</b>        | data table |
| <b>sharedobject</b>              | function | <b>usedindices</b>            | table      |
| <b>shareobject</b>               | function | <b>verbose</b>                | function   |
| <b>shareobjectreference</b>      | function |                               |            |

# lpeg (basic lua)

|                     |          |                              |            |
|---------------------|----------|------------------------------|------------|
| <b>B</b>            | function | <b>firstofsplit</b>          | function   |
| <b>C</b>            | function | <b>frontstripper</b>         | function   |
| <b>Carg</b>         | function | <b>instringchecker</b>       | function   |
| <b>Cb</b>           | function | <b>is_lpeg</b>               | function   |
| <b>Cc</b>           | function | <b>keeper</b>                | function   |
| <b>Cf</b>           | function | <b>locale</b>                | function   |
| <b>Cg</b>           | function | <b>match</b>                 | function   |
| <b>Cmt</b>          | function | <b>oneof</b>                 | function   |
| <b>Cp</b>           | function | <b>patterns</b>              | data table |
| <b>Cs</b>           | function | <b>pcode</b>                 | function   |
| <b>Ct</b>           | function | <b>print</b>                 | function   |
| <b>P</b>            | function | <b>ptree</b>                 | function   |
| <b>R</b>            | function | <b>replacer</b>              | function   |
| <b>S</b>            | function | <b>secondofsplit</b>         | function   |
| <b>UP</b>           | function | <b>setmaxstack</b>           | function   |
| <b>UR</b>           | function | <b>setutfcasers</b>          | function   |
| <b>US</b>           | function | <b>split</b>                 | function   |
| <b>V</b>            | function | <b>splitat</b>               | function   |
| <b>afterprefix</b>  | function | <b>splitter</b>              | function   |
| <b>anywhere</b>     | function | <b>stripper</b>              | function   |
| <b>append</b>       | function | <b>times</b>                 | function   |
| <b>balancer</b>     | function | <b>tsplitat</b>              | function   |
| <b>beforesuffix</b> | function | <b>tsplitter</b>             | function   |
| <b>checkedsplit</b> | function | <b>type</b>                  | function   |
| <b>containsws</b>   | function | <b>utfR</b>                  | function   |
| <b>counter</b>      | function | <b>utfchartabletopattern</b> | function   |
| <b>endstripper</b>  | function | <b>utfreplacer</b>           | function   |
| <b>finder</b>       | function | <b>version</b>               | string     |

## lua (basic tex)

|                            |                     |                                |            |
|----------------------------|---------------------|--------------------------------|------------|
| <b>addnibble</b>           | function            | <b>getstacktop</b>             | function   |
| <b>bytecode</b>            | table               | <b>getstartupfile</b>          | function   |
| <b>bytedata</b>            | data table          | <b>getstringkeys</b>           | function   |
| <b>bytdone</b>             | table               | <b>getversion</b>              | function   |
| <b>callbytecode</b>        | function            | <b>lastbytecode</b>            | number     |
| <b>comparekeys</b>         | function            | <b>messages</b>                | data table |
| <b>finalizeinitex</b>      | function            | <b>newindex</b>                | function   |
| <b>firstbytecode</b>       | number              | <b>newtable</b>                | function   |
| <b>get_functions_table</b> | function            | <b>numbers</b>                 | data table |
| <b>getallkeys</b>          | function            | <b>protectglobal</b>           | function   |
| <b>getbytecode</b>         | function            | <b>registercode</b>            | function   |
| <b>getcheckedkeys</b>      | function            | <b>registercodes</b>           | function   |
| <b>getcurrenttime</b>      | function            | <b>registerglobal</b>          | function   |
| <b>getdebuginfo</b>        | function            | <b>registerinitexfinalizer</b> | function   |
| <b>getexitcode</b>         | function            | <b>registername</b>            | function   |
| <b>getfunctionstable</b>   | overloaded function | <b>setbytecode</b>             | function   |
| <b>getnibble</b>           | function            | <b>setexitcode</b>             | function   |
| <b>getnumerickeys</b>      | function            | <b>setnibble</b>               | function   |
| <b>getpreciseseconds</b>   | function            | <b>startupfile</b>             | string     |
| <b>getpreciseticks</b>     | function            | <b>subnibble</b>               | function   |
| <b>getruntime</b>          | function            | <b>version</b>                 | string     |

## luac (extra lua)

**inspect** function

**print** function

# luatex (context)

|                             |          |                    |          |
|-----------------------------|----------|--------------------|----------|
| <b>abort</b>                | function | F disable          |          |
| <b>cleanup</b>              | function | F enable           |          |
| <b>cleanuptempfiles</b>     | function | F finish           |          |
| <b>currentfile</b>          | function | F isenabled        |          |
| <b>currentlevel</b>         | function | F pause            |          |
| <b>currenttotal</b>         | function | F popline          |          |
| <b>poprunstate</b>          | function | F pushline         |          |
| <b>pushrunstate</b>         | function | F registerdisabler |          |
| <b>registerdumpactions</b>  | function | F registerenabler  |          |
| <b>registerpageactions</b>  | function | F resetfilename    |          |
| <b>registerstartactions</b> | function | F resume           |          |
| <b>registerstopactions</b>  | function | F setfilename      |          |
| <b>registertempfile</b>     | function | F setup            |          |
| <b>starttime</b>            | number   | F start            |          |
| <b>synctex</b>              | table    | F stop             |          |
| F blockfilename             |          | F wrapup           |          |
| F collect                   |          | <b>wrapup</b>      | function |

# lxml (context)

|                          |            |                         |          |
|--------------------------|------------|-------------------------|----------|
| <b>addindex</b>          | function   | <b>filter</b>           | function |
| <b>all</b>               | function   | <b>filterlist</b>       | function |
| <b>applyfunction</b>     | function   | <b>first</b>            | function |
| <b>applyselectors</b>    | function   | <b>flush</b>            | function |
| <b>att</b>               | function   | <b>flushlinewise</b>    | function |
| <b>attribute</b>         | function   | <b>flushsetups</b>      | function |
| <b>badinclusions</b>     | function   | <b>flushspacewise</b>   | function |
| <b>chainattribute</b>    | function   | <b>get_id</b>           | function |
| <b>checkindex</b>        | function   | <b>getid</b>            | function |
| <b>collected</b>         | function   | <b>getindex</b>         | function |
| <b>command</b>           | function   | <b>id</b>               | function |
| <b>concat</b>            | function   | <b>idsplitter</b>       | userdata |
| <b>concatrange</b>       | function   | <b>ifatt</b>            | function |
| <b>content</b>           | function   | <b>ifattempty</b>       | function |
| <b>context</b>           | function   | <b>include</b>          | function |
| <b>convert</b>           | function   | <b>inclusion</b>        | function |
| <b>count</b>             | function   | <b>inclusions</b>       | function |
| <b>delete</b>            | function   | <b>index</b>            | function |
| <b>depth</b>             | function   | <b>inlineverbatimim</b> | function |
| <b>direct</b>            | function   | <b>installsetup</b>     | function |
| <b>directives</b>        | table      | <b>last</b>             | function |
| F after                  |            | <b>lastatt</b>          | function |
| F before                 |            | <b>lastmatch</b>        | function |
| F handle                 |            | <b>lastpar</b>          | function |
| F load                   |            | <b>load</b>             | function |
| F setup                  |            | <b>loadbuffer</b>       | function |
| <b>displayverbatimim</b> | function   | <b>loaddata</b>         | function |
| <b>doif</b>              | function   | <b>loaded</b>           | table    |
| <b>doifelse</b>          | function   | <b>main</b>             | function |
| <b>doifelseempty</b>     | function   | <b>match</b>            | function |
| <b>doifelsetext</b>      | function   | <b>name</b>             | function |
| <b>doifempty</b>         | function   | <b>namespace</b>        | function |
| <b>doifnot</b>           | function   | <b>nonspace</b>         | function |
| <b>doifnotempty</b>      | function   | <b>par</b>              | function |
| <b>doifnottext</b>       | function   | <b>param</b>            | function |
| <b>doiftext</b>          | function   | <b>parameter</b>        | function |
| <b>element</b>           | function   | <b>path</b>             | function |
| <b>elements</b>          | function   | <b>popmatch</b>         | function |
| <b>entities</b>          | data table | <b>pos</b>              | function |
| <b>fileline</b>          | function   | <b>position</b>         | function |
| <b>filename</b>          | function   | <b>pure</b>             | function |

|                         |          |                      |            |
|-------------------------|----------|----------------------|------------|
| <b>pushmatch</b>        | function | <b>sorters</b>       | table      |
| <b>raw</b>              | function | F add                |            |
| <b>rawroot</b>          | function | F compare            |            |
| <b>rawtex</b>           | function | F flush              |            |
| <b>refatt</b>           | function | F reset              |            |
| <b>register</b>         | function | F show               |            |
| <b>registerentity</b>   | function | F sort               |            |
| <b>removesetup</b>      | function | <b>splitid</b>       | function   |
| <b>replace</b>          | function | <b>startraw</b>      | function   |
| <b>resetcdata</b>       | function | <b>startunesaped</b> | function   |
| <b>resetsetups</b>      | function | <b>stopraw</b>       | function   |
| <b>resolvedentity</b>   | function | <b>stopunesaped</b>  | function   |
| <b>root</b>             | function | <b>store</b>         | function   |
| <b>save</b>             | function | <b>strip</b>         | function   |
| <b>serialize</b>        | function | <b>stripped</b>      | function   |
| <b>setaction</b>        | function | <b>tag</b>           | function   |
| <b>setatt</b>           | function | <b>texatt</b>        | function   |
| <b>setattribute</b>     | function | <b>text</b>          | function   |
| <b>setcdata</b>         | function | <b>tobuffer</b>      | function   |
| <b>setcommandtonone</b> | function | <b>tofile</b>        | function   |
| <b>setcommandtotext</b> | function | <b>toparameters</b>  | function   |
| <b>setpar</b>           | function | <b>toverbatim</b>    | function   |
| <b>setparam</b>         | function | <b>verbatim</b>      | function   |
| <b>setparameter</b>     | function | <b>withindex</b>     | function   |
| <b>setsetup</b>         | function | <b>xmltexhandler</b> | data table |
| <b>snippet</b>          | function |                      |            |

## math (basic lua)

|                    |          |                       |                     |
|--------------------|----------|-----------------------|---------------------|
| <b>abs</b>         | function | <b>maxinteger</b>     | number              |
| <b>acos</b>        | function | <b>min</b>            | function            |
| <b>asin</b>        | function | <b>mininteger</b>     | number              |
| <b>atan</b>        | function | <b>mod</b>            | function            |
| <b>atan2</b>       | function | <b>modf</b>           | function            |
| <b>ceil</b>        | function | <b>odd</b>            | function            |
| <b>ceiling</b>     | function | <b>pi</b>             | number              |
| <b>cos</b>         | function | <b>pow</b>            | function            |
| <b>cosd</b>        | function | <b>rad</b>            | function            |
| <b>cosh</b>        | function | <b>random</b>         | overloaded function |
| <b>deg</b>         | function | <b>randomseed</b>     | function            |
| <b>div</b>         | function | <b>round</b>          | function            |
| <b>even</b>        | function | <b>setrandomseedi</b> | function            |
| <b>exp</b>         | function | <b>sin</b>            | function            |
| <b>floor</b>       | function | <b>sind</b>           | function            |
| <b>fmod</b>        | function | <b>sinh</b>           | function            |
| <b>frexp</b>       | function | <b>sqrt</b>           | function            |
| <b>huge</b>        | number   | <b>tan</b>            | function            |
| <b>initialseed</b> | number   | <b>tand</b>           | function            |
| <b>ldexp</b>       | function | <b>tanh</b>           | function            |
| <b>log</b>         | function | <b>tointeger</b>      | function            |
| <b>log10</b>       | function | <b>type</b>           | function            |
| <b>max</b>         | function | <b>ult</b>            | function            |

# mathematics (context)

|                               |            |                             |            |
|-------------------------------|------------|-----------------------------|------------|
| <b>addfallbacks</b>           | function   | <b>familyname</b>           | function   |
| <b>addvariant</b>             | function   | <b>functiontype</b>         | function   |
| <b>alphabets</b>              | data table | <b>gaps</b>                 | data table |
| <b>alternatives</b>           | data table | <b>getblobindex</b>         | function   |
| <b>beforepassingfonttotex</b> | function   | <b>getboth</b>              | function   |
| <b>big</b>                    | function   | <b>getdomainname</b>        | function   |
| <b>boldmap</b>                | data table | <b>getextensibledata</b>    | function   |
| <b>categories</b>             | table      | <b>getmathblob</b>          | function   |
| D functions                   |            | <b>getoptionallabel</b>     | function   |
| <b>charactersets</b>          | data table | <b>getstyle</b>             | function   |
| <b>checkaftercopyingfont</b>  | function   | <b>gettextblob</b>          | function   |
| <b>classes</b>                | data table | <b>getverboselabel</b>      | function   |
| <b>classnameses</b>           | data table | <b>horizontalcode</b>       | function   |
| <b>codes</b>                  | data table | <b>initializeparameters</b> | function   |
| <b>define</b>                 | function   | <b>makefont</b>             | function   |
| <b>dictionaries</b>           | table      | <b>mapremap</b>             | data table |
| D data                        |            | <b>markblobindexdone</b>    | function   |
| D defaults                    |            | <b>overloadparameters</b>   | function   |
| D groups                      |            | <b>preset</b>               | function   |
| F groupset                    |            | <b>presets</b>              | table      |
| F groupsetgroup               |            | <b>privatebase</b>          | number     |
| F name                        |            | <b>registerextensible</b>   | function   |
| D names                       |            | <b>registersimplematrix</b> | function   |
| F registercharacter           |            | <b>registerverboselabel</b> | function   |
| F registergroup               |            | <b>remapalphabets</b>       | function   |
| F registergroupset            |            | <b>renderextensible</b>     | function   |
| D sets                        |            | <b>renderings</b>           | table      |
| D variants                    |            | D mappings                  |            |
| <b>dimensions</b>             | function   | D numbers                   |            |
| <b>disablecollecting</b>      | function   | D sets                      |            |
| <b>domainlabels</b>           | table      | <b>renderset</b>            | function   |
| <b>domainnames</b>            | table      | <b>resetattributes</b>      | function   |
| N default                     |            | <b>scaleparameters</b>      | function   |
| <b>enablecollecting</b>       | function   | <b>setextensibledata</b>    | function   |
| <b>extensiblecode</b>         | function   | <b>setmathsymbol</b>        | function   |
| <b>extensibles</b>            | data table | <b>sets</b>                 | data table |
| <b>extrabase</b>              | number     | <b>setsnapping</b>          | function   |
| <b>fallbacks</b>              | table      | <b>setvariant</b>           | function   |
| F apply                       |            | <b>strutcode</b>            | function   |
| F install                     |            | <b>styles</b>               | data table |
| <b>fallbackstyleattr</b>      | function   | <b>syncboth</b>             | function   |

|                               |          |                        |            |
|-------------------------------|----------|------------------------|------------|
| <b>syncname</b>               | function | F fontname             |            |
| <b>syncstyle</b>              | function | F inspect              |            |
| <b>tagging</b>                | table    | F keepbases            |            |
| B mfenced                     |          | F kernpairs            |            |
| <b>toengineclass</b>          | function | F kerns                |            |
| <b>toname</b>                 | function | F margins              |            |
| <b>tostyle</b>                | function | F message              |            |
| <b>tweakaftercopyingfont</b>  | function | F moveitalics          |            |
| <b>tweakbeforecopyingfont</b> | function | F movelimits           |            |
| <b>tweaks</b>                 | table    | F parameters           |            |
| F accentdimensions            |          | F radicalbodymargins   |            |
| F action                      |          | F radicaldegreearchors |            |
| F addactuarian                |          | F replace              |            |
| F addarrows                   |          | F replacealphabets     |            |
| F addbars                     |          | F replacerules         |            |
| F addcomposites               |          | F setoptions           |            |
| F addequals                   |          | F setovershoots        |            |
| F addfourier                  |          | F showinfo             |            |
| F addmirrors                  |          | F simplifykerns        |            |
| F addparts                    |          | F sortvariants         |            |
| F addprivates                 |          | F staircase            |            |
| F addrules                    |          | F strut                |            |
| F addscripts                  |          | F substitute           |            |
| F bigslots                    |          | F topanchors           |            |
| F checkaccents                |          | F tweaks               |            |
| F checkspacing                |          | F version              |            |
| F copyaccents                 |          | F wipeanchors          |            |
| F dimensions                  |          | F wipecues             |            |
| F extendaccents               |          | F wipeitalics          |            |
| F fallbacks                   |          | F wipevariants         |            |
| F fixaccents                  |          | <b>utfmathaccent</b>   | function   |
| F fixellipses                 |          | <b>utfmathclass</b>    | function   |
| F fixintegrals                |          | <b>utfmathcommand</b>  | function   |
| F fixoldschool                |          | <b>utfmathfiller</b>   | function   |
| F fixprimes                   |          | <b>utfmathstretch</b>  | function   |
| F fixradicals                 |          | <b>variantcode</b>     | function   |
| F fixslashes                  |          | <b>variantcount</b>    | function   |
| F fixvariants                 |          | <b>virtualize</b>      | function   |
| F flattenaccents              |          | <b>virtualized</b>     | data table |

## md5 (extra lua)

**HEX**    function  
**dec**    function  
**hex**    function

**sum**    function  
**sumHEXA** function  
**sumhexa** function

# metapost (context)

|                           |          |                   |
|---------------------------|----------|-------------------|
| <b>checkformat</b>        | function | N newinternal     |
| <b>checktracingonline</b> | function | N nullary         |
| <b>cm</b>                 | function | N numeric         |
| <b>codes</b>              | table    | N of              |
| N addto                   |          | N ofbinary        |
| N ampersand               |          | N onlyset         |
| N and                     |          | N parametertype   |
| N assignment              |          | N pathconnect     |
| N atleast                 |          | N pathjoin        |
| N begingroup              |          | N plusorminus     |
| N btex                    |          | N primarybinary   |
| N capsule                 |          | N primarydef      |
| N colon                   |          | N property        |
| N comma                   |          | N protection      |
| N controls                |          | N relax           |
| N curl                    |          | N repeatloop      |
| N cycle                   |          | N rightbrace      |
| N definedmacro            |          | N rightbracket    |
| N delimiters              |          | N rightdelimiter  |
| N endgroup                |          | N runscript       |
| N equals                  |          | N save            |
| N etex                    |          | N scantokens      |
| N everyjob                |          | N secondarybinary |
| N exittest                |          | N secondarydef    |
| N expandafter             |          | N semicolon       |
| N fiorelse                |          | N setbounds       |
| N if                      |          | N shipout         |
| N input                   |          | N show            |
| N interim                 |          | N slash           |
| N internal                |          | N step            |
| N iteration               |          | N stop            |
| N leftbrace               |          | N str             |
| N leftbracket             |          | N string          |
| N leftdelimiter           |          | N tag             |
| N let                     |          | N tension         |
| N macrodef                |          | N tertiarybinary  |
| N macrospecial            |          | N tertiarydef     |
| N maketext                |          | N thingstoadd     |
| N message                 |          | N to              |
| N mode                    |          | N typename        |
| N newbytemap              |          | N unary           |

|                           |            |                             |          |
|---------------------------|------------|-----------------------------|----------|
| N undefinedcs             |            | <b>gettolerance</b>         | function |
| N until                   |            | <b>graphic</b>              | function |
| N void                    |            | <b>graphic_base_pass</b>    | function |
| N with                    |            | <b>hascurvature</b>         | function |
| N within                  |            | <b>includesvgbuffer</b>     | function |
| N write                   |            | <b>includesvgfile</b>       | function |
| <b>colorinitializer</b>   | function   | <b>installplugin</b>        | function |
| <b>convert</b>            | function   | <b>isobject</b>             | function |
| <b>currentmpx</b>         | function   | <b>knownparameters</b>      | table    |
| <b>currentmpxstatus</b>   | function   | <b>lastlog</b>              | string   |
| <b>defaultformat</b>      | string     | <b>load</b>                 | function |
| <b>defaultinstance</b>    | string     | <b>maketext</b>             | function |
| <b>defaultmethod</b>      | string     | <b>mesh</b>                 | function |
| <b>directrun</b>          | function   | <b>mesher</b>               | function |
| <b>escaped</b>            | function   | <b>meshupper</b>            | function |
| <b>exectime</b>           | table      | <b>metafonts</b>            | table    |
| <b>extensiondata</b>      | data table | <b>metafun</b>              | table    |
| <b>filterclippath</b>     | function   | F interpolate               |          |
| <b>flush</b>              | function   | F topath                    |          |
| <b>flushers</b>           | table      | <b>mptopdf</b>              | table    |
| <b>flushnormalpath</b>    | function   | F convertmpstopdf           |          |
| <b>fonts</b>              | table      | N nofconverted              |          |
| F define                  |            | <b>n</b>                    | number   |
| <b>format_number</b>      | function   | <b>newlogger</b>            | function |
| <b>format_string</b>      | function   | <b>nofruns</b>              | number   |
| <b>formatnumber</b>       | function   | <b>nofscriptruns</b>        | function |
| <b>getbackendooption</b>  | function   | <b>nvformat</b>             | function |
| <b>getbendtolerance</b>   | function   | <b>pdfliterals</b>          | function |
| <b>getbuffer</b>          | function   | <b>pluginactions</b>        | function |
| <b>getclippath</b>        | function   | <b>popformat</b>            | function |
| <b>getextensions</b>      | function   | <b>popscriptrunner</b>      | function |
| <b>getextradata</b>       | function   | <b>popvariable</b>          | function |
| <b>gethashentries</b>     | function   | <b>popvariables</b>         | function |
| <b>getinstancebyname</b>  | function   | <b>preparetexttextsdata</b> | function |
| <b>getinstanceinfo</b>    | function   | <b>process</b>              | function |
| <b>getinstancenames</b>   | function   | <b>processing</b>           | function |
| <b>getjobdata</b>         | function   | <b>processplugins</b>       | function |
| <b>getmovetolerance</b>   | function   | <b>properties</b>           | table    |
| <b>getparameter</b>       | function   | <b>pushformat</b>           | function |
| <b>getparameterpreset</b> | function   | <b>pushscriptrunner</b>     | function |
| <b>getparameterset</b>    | function   | <b>pushvariable</b>         | function |
| <b>getrecord</b>          | function   | <b>pushvariables</b>        | function |
| <b>getstatistics</b>      | function   | <b>quitonerror</b>          | boolean  |
| <b>gettext</b>            | function   | <b>reducetogray</b>         | boolean  |

|                            |          |                      |          |
|----------------------------|----------|----------------------|----------|
| <b>registerdirect</b>      | function | N cm                 |          |
| <b>registermesher</b>      | function | N em                 |          |
| <b>registermeshupper</b>   | function | N ex                 |          |
| <b>registerscript</b>      | function | N in                 |          |
| <b>registertokens</b>      | function | N mm                 |          |
| <b>remappedtext</b>        | function | N pc                 |          |
| <b>remaptext</b>           | function | N pt                 |          |
| <b>reporterror</b>         | function | N px                 |          |
| <b>reportsvgfonts</b>      | function | <b>svgglyphstomp</b> | function |
| <b>reset</b>               | function | <b>svgshapestomp</b> | function |
| <b>resetbackendoptions</b> | function | <b>svgshapetopdf</b> | function |
| <b>resetlastlog</b>        | function | <b>svgsplitcolor</b> | function |
| <b>resetplugins</b>        | function | <b>svgtomp</b>       | function |
| <b>run</b>                 | function | <b>svgtopdf</b>      | function |
| <b>runinternal</b>         | function | <b>sxsy</b>          | function |
| <b>runscript</b>           | function | <b>tex</b>           | table    |
| <b>scanparameters</b>      | function | F get                |          |
| <b>scriptindex</b>         | function | F reset              |          |
| <b>setbendtolerance</b>    | function | F set                |          |
| <b>setbuffer</b>           | function | F setfrombuffer      |          |
| <b>setextensions</b>       | function | <b>texerrors</b>     | boolean  |
| <b>setlogging</b>          | function | <b>texexp</b>        | function |
| <b>setmovetolerance</b>    | function | <b>theclippath</b>   | function |
| <b>setoutercolor</b>       | function | <b>tographic</b>     | function |
| <b>setparameter</b>        | function | <b>totable</b>       | function |
| <b>setparameterset</b>     | function | <b>types</b>         | table    |
| <b>setrecord</b>           | function | N boolean            |          |
| <b>settext</b>             | function | N cmykcolor          |          |
| <b>settolerance</b>        | function | N color              |          |
| <b>setvariable</b>         | function | N dependent          |          |
| <b>showlog</b>             | boolean  | N independent        |          |
| <b>showsvgpage</b>         | function | N known              |          |
| <b>simple</b>              | function | N nep                |          |
| <b>splitprescript</b>      | function | N numeric            |          |
| <b>startgraphic</b>        | function | N pair               |          |
| <b>startsvghashing</b>     | function | N path               |          |
| <b>stopgraphic</b>         | function | N pen                |          |
| <b>stopsvghashing</b>      | function | N picture            |          |
| <b>svformat</b>            | function | N protodependent     |          |
| <b>svgcachefile</b>        | boolean  | N string             |          |
| <b>svgcolorremapper</b>    | function | N structured         |          |
| <b>svgfactors</b>          | table    | N suffixedmacro      |          |
| N %                        |          | N tokenlist          |          |
| N bp                       |          | N transform          |          |

N unknownboolean  
N unknownnep  
N unknownpath  
N unknownpen  
N unknownpicture  
N unknownstring

N unsuffixedmacro

N vacuous

**typesvgpage**

**unload**

**untagvariable**

**variables**

function

function

function

table

# mime (context)

**b64** function

**decode** function

**decodet** table

F base64

F quoted-printable

**dot** function

**encode** function

**encodet** table

F base64

F quoted-printable

**eol** function

**normalize** function

**qp** function

**qpwrp** function

**report** function

**stuff** function

**unb64** function

**unqp** function

**wrap** function

**wrapt** table

F base64

F default

F quoted-printable

F text

**wrp** function

# mp (context)

|                               |          |                                   |          |
|-------------------------------|----------|-----------------------------------|----------|
| <b>autoinject</b>             | function | <b>flatten</b>                    | function |
| <b>aux</b>                    | function | <b>flush</b>                      | function |
| F boolean                     |          | <b>format</b>                     | function |
| F color                       |          | <b>formatted</b>                  | function |
| F direct                      |          | <b>fprint</b>                     | function |
| F draw                        |          | <b>get</b>                        | table    |
| F fill                        |          | F hashentry                       |          |
| F flush                       |          | <b>getbytemap</b>                 | function |
| F fprint                      |          | <b>getbytemapdata</b>             | function |
| F integer                     |          | <b>getlastaddtype</b>             | function |
| F number                      |          | <b>graphformat</b>                | function |
| F numeric                     |          | <b>inject</b>                     | function |
| F pair                        |          | F boolean                         |          |
| F pairpoints                  |          | F cmykcolor                       |          |
| F path                        |          | F color                           |          |
| F pathpoints                  |          | F integer                         |          |
| F points                      |          | F number                          |          |
| F print                       |          | F numeric                         |          |
| F quadruple                   |          | F pair                            |          |
| F quadruplepoints             |          | F path                            |          |
| F quoted                      |          | F pt                              |          |
| F size                        |          | F quadruplet                      |          |
| F string                      |          | F string                          |          |
| F transform                   |          | F transform                       |          |
| F triplet                     |          | F triplet                         |          |
| F tripletpoints               |          | F vector                          |          |
| F vprint                      |          | F vectors                         |          |
| <b>boolean</b>                | function | F whatever                        |          |
| <b>bytemap_load_from_file</b> | function | F whd                             |          |
| <b>cleaned</b>                | function | F xy                              |          |
| <b>color</b>                  | function | <b>integer</b>                    | function |
| <b>dataset</b>                | function | <b>lmt_function_x</b>             | function |
| <b>datasets</b>               | function | <b>lmt_glyphshape_accent</b>      | function |
| F load                        |          | <b>lmt_glyphshape_baseline</b>    | function |
| <b>direct</b>                 | function | <b>lmt_glyphshape_boundingbox</b> | function |
| <b>downgradebytemap</b>       | function | <b>lmt_glyphshape_depth</b>       | function |
| <b>downsamplebytemap</b>      | function | <b>lmt_glyphshape_height</b>      | function |
| <b>draw</b>                   | function | <b>lmt_glyphshape_italic</b>      | function |
| <b>expandtex</b>              | function | <b>lmt_glyphshape_llx</b>         | function |
| <b>fill</b>                   | function | <b>lmt_glyphshape_n</b>           | function |
| <b>fillbytemap</b>            | function | <b>lmt_glyphshape_path</b>        | function |

|                                |          |                        |          |
|--------------------------------|----------|------------------------|----------|
| <b>lmt_glyphshape_start</b>    | function | <b>numeric</b>         | function |
| <b>lmt_glyphshape_stop</b>     | function | <b>pair</b>            | function |
| <b>lmt_glyphshape_usedbox</b>  | function | <b>pairpoints</b>      | function |
| <b>lmt_glyphshape_usedline</b> | function | <b>path</b>            | function |
| <b>lmt_glyphshape_width</b>    | function | <b>pathpoints</b>      | function |
| <b>lmt_mesh_set</b>            | function | <b>points</b>          | function |
| <b>lmt_mesh_update</b>         | function | <b>print</b>           | function |
| <b>lmt_poisson_generate</b>    | function | F boolean              |          |
| <b>lmt_start_potrace</b>       | function | F color                |          |
| <b>lmt_step_potrace</b>        | function | F direct               |          |
| <b>lmt_stop_potrace</b>        | function | F draw                 |          |
| <b>lmt_svg_include</b>         | function | F fill                 |          |
| <b>loadbytemap</b>             | function | F flush                |          |
| <b>loadbytemapfile</b>         | function | F fprint               |          |
| <b>mesh_register</b>           | function | F integer              |          |
| <b>mf_blob_add</b>             | function | F number               |          |
| <b>mf_blob_dimensions</b>      | function | F numeric              |          |
| <b>mf_blob_index</b>           | function | F pair                 |          |
| <b>mf_blob_new</b>             | function | F pairpoints           |          |
| <b>mf_blob_raw_content</b>     | function | F path                 |          |
| <b>mf_blob_raw_dimensions</b>  | function | F pathpoints           |          |
| <b>mf_blob_raw_reset</b>       | function | F points               |          |
| <b>mf_blob_raw_toutf</b>       | function | F print                |          |
| <b>mf_blob_raw_wipe</b>        | function | F quadruple            |          |
| <b>mf_blob_size</b>            | function | F quadruplepoints      |          |
| <b>mf_blob_width</b>           | function | F quoted               |          |
| <b>mf_external_figure</b>      | function | F size                 |          |
| <b>mf_finish_saving_data</b>   | function | F string               |          |
| <b>mf_formatted_text</b>       | function | F transform            |          |
| <b>mf_get_outline_text</b>     | function | F triplet              |          |
| <b>mf_graphic_text</b>         | function | F tripletpoints        |          |
| <b>mf_inject_blob</b>          | function | F vprint               |          |
| <b>mf_map_move</b>             | function | <b>processbytemap</b>  | function |
| <b>mf_map_text</b>             | function | <b>processingmode</b>  | function |
| <b>mf_named_color</b>          | function | <b>quadruple</b>       | function |
| <b>mf_outline_text</b>         | function | <b>quadruplepoints</b> | function |
| <b>mf_save_data</b>            | function | <b>quoted</b>          | function |
| <b>mf_script_index</b>         | function | <b>report</b>          | function |
| <b>mf_start_saving_data</b>    | function | <b>scan</b>            | table    |
| <b>mf_stop_saving_data</b>     | function | F boolean              |          |
| <b>mode</b>                    | function | F cmykcolor            |          |
| <b>n</b>                       | function | F color                |          |
| <b>newbytemap</b>              | function | F expression           |          |
| <b>number</b>                  | function | F integer              |          |

F next  
F number  
F numeric  
F pair  
F path  
F pen  
F property  
F string  
F symbol  
F token  
F transform  
F whatever

**set**

table

**setbytemap**  
**setbytemapoctave**  
**size**  
**skip**  
    F token  
**solve**  
**string**  
**systemmode**  
**transform**  
**triplet**  
**tripletpoints**  
**vprint**

function  
function  
function  
table  
  
function  
function  
function  
function  
function  
function  
function

## mplib (extra tex)

|                             |          |                         |                     |
|-----------------------------|----------|-------------------------|---------------------|
| <b>downgradebytemap</b>     | function | <b>injectcolor</b>      | function            |
| <b>downsamplebytemap</b>    | function | <b>injectinteger</b>    | function            |
| <b>execute</b>              | function | <b>injectnumber</b>     | function            |
| <b>expandtex</b>            | function | <b>injectnumeric</b>    | function            |
| <b>fillbytemap</b>          | function | <b>injectpair</b>       | function            |
| <b>finder</b>               | function | <b>injectpath</b>       | function            |
| <b>finders</b>              | table    | <b>injectstring</b>     | function            |
| F file                      |          | <b>injecttransform</b>  | function            |
| F mpstemplate               |          | <b>injectvector</b>     | function            |
| <b>finish</b>               | function | <b>injectvectors</b>    | function            |
| <b>getbytemap</b>           | function | <b>injectwhatever</b>   | function            |
| <b>getbytemapdata</b>       | function | <b>new</b>              | overloaded function |
| <b>getcallbackstate</b>     | function | <b>newbytemap</b>       | function            |
| <b>getcodes</b>             | function | <b>peninfo</b>          | function            |
| <b>getcolormodels</b>       | function | <b>processbytemap</b>   | function            |
| <b>getfields</b>            | function | <b>propertycodes</b>    | table               |
| <b>gethashentries</b>       | function | <b>realtimelogging</b>  | boolean             |
| <b>gethashentry</b>         | function | <b>scanboolean</b>      | function            |
| <b>getinternalactions</b>   | function | <b>scancmykcolor</b>    | function            |
| <b>getknotstates</b>        | function | <b>scancolor</b>        | function            |
| <b>getlastaddtype</b>       | function | <b>scanexpression</b>   | function            |
| <b>getlogtargets</b>        | function | <b>scaninteger</b>      | function            |
| <b>getobjectdata</b>        | function | <b>scannext</b>         | function            |
| <b>getobjectpeninfo</b>     | function | <b>scannumber</b>       | function            |
| <b>getobjectstacking</b>    | function | <b>scannumeric</b>      | function            |
| <b>getobjecttypes</b>       | function | <b>scanpair</b>         | function            |
| <b>getprimitivelegacies</b> | function | <b>scanpath</b>         | function            |
| <b>getprimitiveorigins</b>  | function | <b>scanpen</b>          | function            |
| <b>getprimitives</b>        | function | <b>scanproperty</b>     | function            |
| <b>getpruneoptions</b>      | function | <b>scanstring</b>       | function            |
| <b>getresultstates</b>      | function | <b>scansymbol</b>       | function            |
| <b>getscaledbits</b>        | function | <b>scantoken</b>        | function            |
| <b>getscantypes</b>         | function | <b>scantransform</b>    | function            |
| <b>getstates</b>            | function | <b>setbytemap</b>       | function            |
| <b>getstatistics</b>        | function | <b>setbytemapoctave</b> | function            |
| <b>getstatus</b>            | function | <b>settolerance</b>     | function            |
| <b>gettolerance</b>         | function | <b>showcontext</b>      | function            |
| <b>gettype</b>              | function | <b>skiptoken</b>        | function            |
| <b>gettypes</b>             | function | <b>solvepath</b>        | function            |
| <b>injectboolean</b>        | function | <b>version</b>          | function            |
| <b>injectcmykcolor</b>      | function |                         |                     |

# nanojpeg (context)

**decode** function

# noads (context)

**getmathmode** function

**handlers** table

F alternates

F autofences

F classes

F collapse

F dictionaries

F export

F families

F fencing

F intervals

F kernpairs

F makeup

F normalize

F numbers

F relocate

F render

F showtree

F snap

F spacing

F suspicious

F tags

F unscript

F unstack

F variants

**process** function

**processnested** function

**processors** table

**processouter** function

# node (basic tex)

|                             |          |                           |
|-----------------------------|----------|---------------------------|
| <b>checkdiscretionaries</b> | function | F getanchors              |
| <b>checkdiscretionary</b>   | function | F getattribute            |
| <b>copy</b>                 | function | F getattributelist        |
| <b>copylist</b>             | function | F getattributes           |
| <b>count</b>                | function | F getboth                 |
| <b>currentattributes</b>    | function | F getbottom               |
| <b>dimensions</b>           | function | F getbottomdelimiter      |
| <b>direct</b>               | table    | F getbox                  |
| F addmargins                |          | F getcachestate           |
| F addxoffset                |          | F getchar                 |
| F addxymargins              |          | F getchardict             |
| F addyoffset                |          | F getcharspec             |
| F appendaftertail           |          | F getchoice               |
| F appendcurrenttail         |          | F getclass                |
| F beginofmath               |          | F getcontinuation         |
| F checkdiscretionaries      |          | F getcontrol              |
| F checkdiscretionary        |          | F getcornerkerns          |
| F collapsing                |          | F getcurrenttail          |
| F copy                      |          | F getdata                 |
| F copylist                  |          | F getdegree               |
| F copyonly                  |          | F getdelimiter            |
| F count                     |          | F getdenominator          |
| F currentattributes         |          | F getdepth                |
| F dimensions                |          | F getdirection            |
| F effectiveglue             |          | F getdisc                 |
| F endofmath                 |          | F getdiscpart             |
| F exchange                  |          | F getexcept               |
| F fields                    |          | F getexpansion            |
| F findattribute             |          | F getfam                  |
| F findattributerange        |          | F getfield                |
| F findnode                  |          | F getfielderror           |
| F firstchar                 |          | F getfirstdirectioninlist |
| F firstglyph                |          | F getfont                 |
| F firstglyphnode            |          | F getfontcheck            |
| F firstitalicglyph          |          | F getgeometry             |
| F flattendiscretionaries    |          | F getglue                 |
| F flattenleaders            |          | F getglyphdata            |
| F flushlist                 |          | F getglyphdimensions      |
| F flushnode                 |          | F getheight               |
| F free                      |          | F getid                   |
| F freeze                    |          | F getidsubtype            |

|                       |                     |
|-----------------------|---------------------|
| F getidsubtypenext    | F getsubtype        |
| F getindex            | F getsup            |
| F getinputfields      | F getsuppre         |
| F getkern             | F gettop            |
| F getkerndimension    | F gettopdelimiter   |
| F getlanguage         | F gettotal          |
| F getleader           | F getusage          |
| F getleftdelimiter    | F getusedattributes |
| F getlist             | F getweight         |
| F getlistdimensions   | F getwhd            |
| F getlocalparboxstate | F getwidth          |
| F getmvlldlist        | F getwordrange      |
| F getnaturalwhd       | F getxscale         |
| F getnext             | F getxyscales       |
| F getnodeerrorvalues  | F getsyscale        |
| F getnodes            | F gluetostring      |
| F getnormalizedline   | F hasattribute      |
| F getnucleus          | F hasdimensions     |
| F getnumerator        | F hasdiscoption     |
| F getoffsets          | F hasfield          |
| F getoptions          | F hasgeometry       |
| F getorientation      | F hasglyph          |
| F getparstate         | F hasglyphoption    |
| F getpenalty          | F hasidsubtype      |
| F getpost             | F hasoptions        |
| F getpre              | F hasusage          |
| F getprev             | F hpack             |
| F getprime            | F hyphenating       |
| F getpropertystable   | F id                |
| F getproperty         | F ignoremathskip    |
| F getreplace          | F insertafter       |
| F getrightdelimiter   | F insertbefore      |
| F getruledimensions   | F insertcurrenthead |
| F getscale            | F isboth            |
| F getscales           | F ischar            |
| F getscrip            | F ischarcheck       |
| F getscripts          | F ischardisc        |
| F getshift            | F isdirect          |
| F getshort            | F isfontcheck       |
| F getslant            | F isglyph           |
| F getspeciallist      | F isitalicglyph     |
| F getstate            | F isloop            |
| F getsub              | F isnext            |
| F getsubpre           | F isnextchar        |

|                       |                       |
|-----------------------|-----------------------|
| F isnextcharcheck     | F setattribute        |
| F isnextglyph         | F setattributelist    |
| F isnode              | F setattributes       |
| F isprev              | F setattributesinlist |
| F isprevchar          | F setboth             |
| F isprevcharcheck     | F setbottom           |
| F isprevglyph         | F setbottomdelimiter  |
| F issimilarglyph      | F setbox              |
| F issnapped           | F setchar             |
| F isspeciallist       | F setchardict         |
| F isvalid             | F setchoice           |
| F iszeroglue          | F setclass            |
| F kerning             | F setcontinuation     |
| F lastnode            | F setcontrol          |
| F length              | F setcurrenttail      |
| F ligaturing          | F setdata             |
| F makeextensible      | F setdegree           |
| F markglyphprocessing | F setdelimiter        |
| F migrate             | F setdenominator      |
| F mlisttohtml         | F setdepth            |
| F naturalhsize        | F setdirection        |
| F naturalwidth        | F setdisc             |
| F new                 | F setdiscpart         |
| F newcontinuationatom | F setexcept           |
| F newfontcheck        | F setexpansion        |
| F newmathglyph        | F setfam              |
| F newtextglyph        | F setfield            |
| F patchattributes     | F setfielderror       |
| F patchparshape       | F setfont             |
| F prependbeforehead   | F setfontcheck        |
| F prependcurrenttail  | F setgeometry         |
| F protectglyph        | F setglue             |
| F protectglyphs       | F setglyphdata        |
| F protectglyphsbase   | F setheight           |
| F protectglyphsnone   | F setindex            |
| F protrusionskipable  | F setinputfields      |
| F rangedimensions     | F setkern             |
| F remove              | F setlanguage         |
| F removefromlist      | F setleader           |
| F repack              | F setleftdelimiter    |
| F reverse             | F setlink             |
| F samefontcheck       | F setlist             |
| F serialized          | F setnext             |
| F setanchors          | F setnucleus          |

|                     |                               |          |
|---------------------|-------------------------------|----------|
| F setnumerator      | F tovaliddirect               |          |
| F setoffsets        | F traverse                    |          |
| F setoptions        | F traversesechar              |          |
| F setorientation    | F traversesecontent           |          |
| F setpenalty        | F traverseseglyph             |          |
| F setpost           | F traverseseid                |          |
| F setpre            | F traverseseitalic            |          |
| F setprev           | F traverseseleader            |          |
| F setprime          | F traverseselist              |          |
| F setproperty       | F traversesepossible          |          |
| F setreplace        | F type                        |          |
| F setrightdelimiter | F types                       |          |
| F setruledimensions | F unprotectglyph              |          |
| F setscale          | F unprotectglyphs             |          |
| F setscales         | F unsetattribute              |          |
| F setscript         | F unsetattributes             |          |
| F setscripts        | F updatefirstandbotmark       |          |
| F setshift          | F updatefirstmarks            |          |
| F setslant          | F updatemarks                 |          |
| F setsnapped        | F updatetopmarks              |          |
| F setspeciallist    | F usedlist                    |          |
| F setsplit          | F usesfont                    |          |
| F setstate          | F vbalance                    |          |
| F setsub            | F verticalbreak               |          |
| F setsubpre         | F vpack                       |          |
| F setsubtype        | F write                       |          |
| F setup             | F xscaled                     |          |
| F setsuppre         | F yscaled                     |          |
| F settop            | <b>effectiveglue</b>          | function |
| F settopdelimiter   | <b>endofmath</b>              | function |
| F settotal          | <b>family_font</b>            | function |
| F setweight         | <b>fields</b>                 | function |
| F setwhd            | <b>findattribute</b>          | function |
| F setwidth          | <b>flattendiscretionaries</b> | function |
| F show              | <b>flushlist</b>              | function |
| F size              | <b>flushnode</b>              | function |
| F slide             | <b>free</b>                   | function |
| F softenhyphens     | <b>getattribute</b>           | function |
| F startofpar        | <b>getcachestate</b>          | function |
| F subtypes          | <b>getfield</b>               | function |
| F tail              | <b>getfielderror</b>          | function |
| F todirect          | <b>getglue</b>                | function |
| F tonode            | <b>getnodeerrorvalues</b>     | function |
| F toString          | <b>getpropertystable</b>      | function |

|                             |          |                        |          |
|-----------------------------|----------|------------------------|----------|
| <b>getproperty</b>          | function | <b>remove</b>          | function |
| <b>gluetostring</b>         | function | <b>serialized</b>      | function |
| <b>hasattribute</b>         | function | <b>setattribute</b>    | function |
| <b>hasfield</b>             | function | <b>setfield</b>        | function |
| <b>hasglyph</b>             | function | <b>setfielderror</b>   | function |
| <b>hpack</b>                | function | <b>setglue</b>         | function |
| <b>hyphenating</b>          | function | <b>setproperty</b>     | function |
| <b>id</b>                   | function | <b>show</b>            | function |
| <b>insertafter</b>          | function | <b>size</b>            | function |
| <b>insertbefore</b>         | function | <b>slide</b>           | function |
| <b>instock</b>              | function | <b>subtypes</b>        | function |
| <b>intracking</b>           | function | <b>tail</b>            | function |
| <b>inuse</b>                | function | <b>todirect</b>        | function |
| <b>isnode</b>               | function | <b>tonode</b>          | function |
| <b>iszeroglue</b>           | function | <b>tostring</b>        | function |
| <b>kerning</b>              | function | <b>traverse</b>        | function |
| <b>lastnode</b>             | function | <b>traverseid</b>      | function |
| <b>length</b>               | function | <b>type</b>            | function |
| <b>ligaturing</b>           | function | <b>types</b>           | function |
| <b>makeextensible</b>       | function | <b>unprotectglyph</b>  | function |
| <b>mlisttohtml</b>          | function | <b>unprotectglyphs</b> | function |
| <b>new</b>                  | function | <b>unsetattribute</b>  | function |
| <b>protectglyph</b>         | function | <b>usedlist</b>        | function |
| <b>protectglyphs</b>        | function | <b>usesfont</b>        | function |
| <b>protrusionskipppable</b> | function | <b>vpack</b>           | function |
| <b>rangedimensions</b>      | function | <b>write</b>           | function |

# nodes (context)

|                           |            |                      |            |
|---------------------------|------------|----------------------|------------|
| <b>accentcodes</b>        | data table | <b>fencecodes</b>    | data table |
| <b>adaptive</b>           | table      | <b>fields</b>        | function   |
| F handlehorizontal        |            | <b>fieldtypes</b>    | table      |
| F handlevertical          |            | <b>fillcodes</b>     | data table |
| F set                     |            | <b>fillvalues</b>    | data table |
| <b>aligned</b>            | function   | <b>firstdirinbox</b> | function   |
| <b>append</b>             | function   | <b>flush</b>         | function   |
| <b>apply</b>              | function   | <b>flushlist</b>     | function   |
| <b>applyvisuals</b>       | function   | <b>flushnode</b>     | function   |
| <b>astable</b>            | function   | <b>fractioncodes</b> | data table |
| <b>basepoints</b>         | function   | <b>fullhpack</b>     | function   |
| <b>boundarycodes</b>      | data table | <b>getattr</b>       | function   |
| <b>boxes</b>              | table      | <b>getattribute</b>  | function   |
| F count                   |            | <b>getboth</b>       | function   |
| F dimensions              |            | <b>getbox</b>        | function   |
| F direct                  |            | <b>getchar</b>       | function   |
| F dispose                 |            | <b>getfield</b>      | function   |
| F found                   |            | <b>getfont</b>       | function   |
| F prune                   |            | <b>getid</b>         | function   |
| F reset                   |            | <b>getleader</b>     | function   |
| F restore                 |            | <b>getlist</b>       | function   |
| F save                    |            | <b>getnext</b>       | function   |
| F savenode                |            | <b>getprev</b>       | function   |
| <b>builders</b>           | table      | <b>getproperty</b>   | function   |
| <b>choicecodes</b>        | data table | <b>getsubtype</b>    | function   |
| <b>concat</b>             | function   | <b>gluecodes</b>     | data table |
| <b>copy</b>               | function   | <b>glyphcodes</b>    | data table |
| <b>copy_node</b>          | function   | <b>handlers</b>      | table      |
| <b>copylist</b>           | function   | F adjusters          |            |
| <b>countall</b>           | function   | F aligncharacter     |            |
| <b>currentattributes</b>  | function   | F backgrounds        |            |
| <b>delete</b>             | function   | F backgroundspage    |            |
| <b>destinations</b>       | table      | F backgroundsvbox    |            |
| N attribute               |            | F characters         |            |
| F handler                 |            | F checkglyphs        |            |
| <b>dircodes</b>           | data table | F checkparcounter    |            |
| <b>directioncodes</b>     | data table | F cleanupbox         |            |
| <b>directionvalues</b>    | data table | F cleanuppage        |            |
| <b>dirvalues</b>          | data table | F export             |            |
| <b>disccodes</b>          | data table | F finalizebox        |            |
| <b>discretionarycodes</b> | data table | F finalizelist       |            |

|                                |          |                        |            |
|--------------------------------|----------|------------------------|------------|
| F flatten                      |          | <b>is_display_math</b> | function   |
| F flattenline                  |          | <b>isdirect</b>        | function   |
| F mathalignrelocate            |          | <b>isnode</b>          | function   |
| F mathmatrixornaments          |          | <b>isnut</b>           | function   |
| F mathmatrixrules              |          | <b>kerncodes</b>       | data table |
| F migrate                      |          | <b>leftmarginwidth</b> | function   |
| F protectglyphs                |          | <b>linefillers</b>     | table      |
| F recolor                      |          | F filler               |            |
| F show                         |          | F handler              |            |
| F showhyphenation              |          | F set                  |            |
| F showpreamble                 |          | <b>lines</b>           | table      |
| F stripping                    |          | D data                 |            |
| F tabulateskip                 |          | F finalize             |            |
| F textbackgrounds              |          | F number               |            |
| F unprotectglyphs              |          | <b>link</b>            | function   |
| F visualizehyphenation         |          | <b>linked</b>          | function   |
| F wipe                         |          | <b>list</b>            | function   |
| <b>hasattribute</b>            | function | <b>listcodes</b>       | data table |
| <b>hasfield</b>                | function | <b>listtoutf</b>       | function   |
| <b>hpack</b>                   | function | <b>literalvalues</b>   | data table |
| <b>idsandsubtypes</b>          | function | <b>locate</b>          | function   |
| <b>idstostring</b>             | function | <b>markcodes</b>       | data table |
| <b>injections</b>              | table    | <b>markers</b>         | table      |
| F copy                         |          | F get                  |            |
| F getligaindex                 |          | F set                  |            |
| F getthreshold                 |          | <b>mathcodes</b>       | data table |
| F handler                      |          | <b>mathvalues</b>      | data table |
| F installgetspaceboth          |          | <b>maxboxwidth</b>     | function   |
| F installnewkern               |          | <b>migrations</b>      | table      |
| F isspace                      |          | F setinserts           |            |
| F keepcounts                   |          | F setmarks             |            |
| F reset                        |          | <b>new</b>             | function   |
| F resetcounts                  |          | <b>noadcodes</b>       | data table |
| F setcursive                   |          | <b>nodecodes</b>       | data table |
| F setkern                      |          | <b>nopts</b>           | function   |
| F setligaindex                 |          | <b>nuts</b>            | table      |
| F setmark                      |          | F addmargins           |            |
| F setmove                      |          | F addxoffset           |            |
| F setposition                  |          | F addxymargins         |            |
| F setspacekerns                |          | F addyoffset           |            |
| <b>insertafter</b>             | function | F append               |            |
| <b>insertbefore</b>            | function | F appendaftertail      |            |
| <b>insertlistafter</b>         | function | F apply                |            |
| <b>installattributehandler</b> | function | F applyvisuals         |            |

|                          |                           |
|--------------------------|---------------------------|
| F beginofmath            | F getboth                 |
| F checkdiscretionaries   | F getbottom               |
| F checkdiscretionary     | F getbottomdelimiter      |
| F checkslide             | F getbox                  |
| F collapsing             | F getboxglue              |
| F concat                 | F getchar                 |
| F copy                   | F getchardict             |
| F copy_properties        | F getcharspec             |
| F copylist               | F getchoice               |
| F copynode               | F getclass                |
| F copyonly               | F getcomponents           |
| F copyvisual             | F getcontinuation         |
| F count                  | F getcontrol              |
| F countall               | F getcornerkerns          |
| F currentattributes      | F getdata                 |
| F delete                 | F getdegree               |
| F dimensions             | F getdelimiter            |
| F dirdimensions          | F getdenominator          |
| F effectiveglue          | F getdepth                |
| F endofmath              | F getdirection            |
| F exchange               | F getdisc                 |
| F findattribute          | F getdiscpart             |
| F findattributerange     | F getdiscretionary        |
| F findnode               | F getexcept               |
| F firstchar              | F getexpansion            |
| F firstglyph             | F getfam                  |
| F firstglyphnode         | F getfield                |
| F firstitalicglyph       | F getfirstdirectioninlist |
| F flattendiscretionaries | F getfont                 |
| F flattenleaders         | F getfontcheck            |
| F flush                  | F getgeometry             |
| F flushlist              | F getglue                 |
| F flushnode              | F getglyphdata            |
| F free                   | F getglyphdimensions      |
| F freeze                 | F getheight               |
| F fullhpack              | F getid                   |
| F fullhpackrl            | F getidsubtype            |
| F getanchors             | F getidsubtypenext        |
| F getattr                | F getindex                |
| F getattribute           | F getinputfields          |
| F getattributelist       | F getkern                 |
| F getattributes          | F getkerndimension        |
| F getattrlist            | F getlang                 |
| F getattrs               | F getlanguage             |

|                       |                     |
|-----------------------|---------------------|
| F getleader           | F gettotal          |
| F getleftdelimiter    | F getusedattributes |
| F getlist             | F getvalue          |
| F getlistdimensions   | F getweight         |
| F getlocalparboxstate | F getwhd            |
| F getmiddle           | F getwidth          |
| F getmiddledelimiter  | F getwordrange      |
| F getmvlolist         | F getxscale         |
| F getnaturalwhd       | F getxyscales       |
| F getnext             | F getsyscale        |
| F getnormalizedline   | F gluetostring      |
| F getnucleus          | F hasattribute      |
| F getnumerator        | F hasdimensions     |
| F getoffsets          | F hasdiscoption     |
| F getoptions          | F hasfield          |
| F getorientation      | F hasgeometry       |
| F getparstate         | F hasglyph          |
| F getpenalty          | F hasglyphoption    |
| F getpost             | F hasidsubtype      |
| F getpre              | F hasoptions        |
| F getprev             | F hpack             |
| F getprime            | F hyphenating       |
| F getprop             | F ignoremathskip    |
| F getreplace          | F insertafter       |
| F getrightdelimiter   | F insertbefore      |
| F getruledata         | F insertlistafter   |
| F getruledimensions   | F is_display_math   |
| F getscale            | F isboth            |
| F getscales           | F ischar            |
| F getscrip            | F ischarcheck       |
| F getscripts          | F isdirect          |
| F getshift            | F isdone            |
| F getshort            | F isglyph           |
| F getslant            | F isitalicglyph     |
| F getspeciallist      | F isnext            |
| F getstate            | F isnextchar        |
| F getsub              | F isnextcharcheck   |
| F getsubpre           | F isnextglyph       |
| F getsubtype          | F isnode            |
| F getsup              | F isnut             |
| F getsuppre           | F isprev            |
| F getsurround         | F isprevchar        |
| F gettop              | F isprevcharcheck   |
| F gettopdelimiter     | F isprevglyph       |

|                       |                       |
|-----------------------|-----------------------|
| F issimilarglyph      | F setattr             |
| F issnapped           | F setattribute        |
| F iszeroglue          | F setattributelist    |
| F kerning             | F setattributes       |
| F lastnode            | F setattributesinlist |
| F length              | F setattrlist         |
| F ligaturing          | F setattrrs           |
| F link                | F setattrsinlist      |
| F linked              | F setboth             |
| F locate              | F setbottom           |
| F migrate             | F setbox              |
| F migratebox          | F setboxglue          |
| F mlisttohlist        | F setchar             |
| F naturalhsize        | F setchardict         |
| F naturalwidth        | F setchoice           |
| F nestedtracedslide   | F setclass            |
| F new                 | F setcomponents       |
| F newcontinuationatom | F setcontinuation     |
| F newfontcheck        | F setcontrol          |
| F newmathglyph        | F setdata             |
| F openup              | F setdegree           |
| F patchattributes     | F setdelimiter        |
| F patchparshape       | F setdenominator      |
| F prepend             | F setdepth            |
| F prependbeforehead   | F setdirection        |
| F processranges       | F setdisc             |
| F processwords        | F setdiscpart         |
| F protectglyph        | F setdiscretionary    |
| F protectglyphs       | F setexcept           |
| F protectglyphsbase   | F setexpansion        |
| F protectglyphsnone   | F setfam              |
| F protrusionskippable | F setfield            |
| F rangedimensions     | F setfont             |
| F rawprop             | F setfontcheck        |
| F reference           | F setgeometry         |
| F reheap              | F setglue             |
| F remove              | F setglyphdata        |
| F removefromlist      | F setheight           |
| F repack              | F setinputfields      |
| F repackhlist         | F setkern             |
| F replace             | F setlang             |
| F reverse             | F setlanguage         |
| F serialized          | F setleader           |
| F setanchors          | F setleftdelimiter    |

|                      |                         |
|----------------------|-------------------------|
| F setlink            | F slide                 |
| F setlist            | F softenhyphens         |
| F setmiddledelimiter | F somepenalty           |
| F setnext            | F somespace             |
| F setnucleus         | F splitbox              |
| F setnumerator       | F startofpar            |
| F setoffsets         | F striprange            |
| F setoptions         | F tail                  |
| F setorientation     | F takeattr              |
| F setparproperty     | F takebox               |
| F setpenalty         | F takelist              |
| F setpost            | F theprop               |
| F setpre             | F tonode                |
| F setprev            | F tonodes               |
| F setprime           | F tonut                 |
| F setprop            | F tosequence            |
| F setreplace         | F toString              |
| F setrightdelimiter  | F tracedslide           |
| F setruledata        | F traverse              |
| F setruledimensions  | F traversechar          |
| F setscale           | F traversecontent       |
| F setscales          | F traverseglyph         |
| F setscript          | F traverseid            |
| F setscripts         | F traverseitalic        |
| F setshift           | F traverseleader        |
| F setslant           | F traverselist          |
| F setsnapped         | F traversepossible      |
| F setspeciallist     | F unprotectglyph        |
| F setsplit           | F unprotectglyphs       |
| F setstate           | F unsetattribute        |
| F setsub             | F unsetattributes       |
| F setsubpre          | F untracedslide         |
| F setsubtype         | F updatefirstandbotmark |
| F setup              | F updatefirstmarks      |
| F setsuppre          | F updatemarks           |
| F setsurround        | F updatetopmarks        |
| F settop             | F usedlist              |
| F setvalue           | F usesfont              |
| F setvisual          | F verticalbreak         |
| F setvisuals         | F vianodes              |
| F setweight          | F vianuts               |
| F setwhd             | F vpack                 |
| F setwidth           | F write                 |
| F show               | F xscaled               |

|                     |            |                          |            |
|---------------------|------------|--------------------------|------------|
| F yscaled           |            | <b>replace</b>           | function   |
| <b>packlist</b>     | function   | <b>report</b>            | function   |
| <b>parcodes</b>     | data table | <b>rightmarginwidth</b>  | function   |
| <b>penaltycodes</b> | data table | <b>rulecodes</b>         | data table |
| <b>plugindata</b>   | table      | <b>rules</b>             | table      |
| F finalizer         |            | F handler                |            |
| F initializer       |            | F process                |            |
| S name              |            | F set                    |            |
| F processor         |            | F userrule               |            |
| <b>points</b>       | function   | <b>serialize</b>         | function   |
| <b>pool</b>         | table      | <b>serializebox</b>      | function   |
| F baselineskip      |            | <b>serialized</b>        | function   |
| F cleanup           |            | <b>setattr</b>           | function   |
| F directliteral     |            | <b>setattribute</b>      | function   |
| F glyph             |            | <b>setattrlist</b>       | function   |
| F hlist             |            | <b>setboth</b>           | function   |
| F latelua           |            | <b>setbox</b>            | function   |
| F leader            |            | <b>setboxtonaturalwd</b> | function   |
| F lineskip          |            | <b>setchar</b>           | function   |
| F literal           |            | <b>setfield</b>          | function   |
| F originliteral     |            | <b>setfont</b>           | function   |
| F register          |            | <b>setleader</b>         | function   |
| F restore           |            | <b>setlink</b>           | function   |
| F save              |            | <b>setlist</b>           | function   |
| F savepos           |            | <b>setnext</b>           | function   |
| F setmatrix         |            | <b>setprev</b>           | function   |
| F stock             |            | <b>setProperty</b>       | function   |
| F usage             |            | <b>shadows</b>           | table      |
| F usernode          |            | F handler                |            |
| F vlist             |            | F set                    |            |
| <b>prepend</b>      | function   | <b>shifts</b>            | table      |
| <b>print</b>        | function   | F handler                |            |
| <b>processors</b>   | table      | F set                    |            |
| F trace_glyph_run_a |            | <b>showboxes</b>         | function   |
| F trace_glyph_run_b |            | <b>showlist</b>          | function   |
| <b>properties</b>   | table      | <b>showsimplelist</b>    | function   |
| <b>pts</b>          | function   | <b>skipcodes</b>         | data table |
| <b>radicalcodes</b> | data table | <b>snapshots</b>         | table      |
| <b>references</b>   | table      | F getsamples             |            |
| N attribute         |            | F resetsamples           |            |
| F handler           |            | F takesample             |            |
| <b>reheapack</b>    | function   | <b>somepenalty</b>       | function   |
| <b>remove</b>       | function   | <b>somespace</b>         | function   |
| <b>repackhlist</b>  | function   | <b>specialskipcodes</b>  | table      |

|                             |            |                           |            |
|-----------------------------|------------|---------------------------|------------|
| <b>splitbox</b>             | function   | <b>tracers</b>            | table      |
| <b>startofpar</b>           | function   | F directions              |            |
| <b>stripdiscretionaries</b> | function   | F fontchar                |            |
| <b>stripping</b>            | table      | F resetproperties         |            |
| F set                       |            | F rule                    |            |
| <b>subtypes</b>             | data table | F setlist                 |            |
| <b>tail</b>                 | function   | F setproperties           |            |
| <b>takeattr</b>             | function   | F start                   |            |
| <b>takebox</b>              | function   | F stop                    |            |
| <b>tasks</b>                | table      | <b>traverse</b>           | function   |
| F actions                   |            | <b>traverseid</b>         | function   |
| F appendaction              |            | <b>typesetters</b>        | table      |
| F disableaction             |            | F hbox                    |            |
| F disablegroup              |            | F hpack                   |            |
| F enableaction              |            | F tohbox                  |            |
| F enablegroup               |            | F tohpack                 |            |
| F freeze                    |            | F tonodes                 |            |
| F freezegroup               |            | F tovbox                  |            |
| F new                       |            | F tovpack                 |            |
| F prependaction             |            | F vpack                   |            |
| F removeaction              |            | <b>unsetattribute</b>     | function   |
| F replaceaction             |            | <b>upcomingproperties</b> | function   |
| F restart                   |            | <b>usedlist</b>           | function   |
| F setaction                 |            | <b>vianodes</b>           | function   |
| F showactions               |            | <b>vianuts</b>            | function   |
| F table                     |            | <b>visualizebox</b>       | function   |
| <b>tobasepoints</b>         | function   | <b>visualizers</b>        | table      |
| <b>tocentimeters</b>        | function   | F attribute               |            |
| <b>tociceros</b>            | function   | F box                     |            |
| <b>todidots</b>             | function   | F definelayer             |            |
| <b>todimen</b>              | function   | F enable                  |            |
| <b>toinches</b>             | function   | F getusedfont             |            |
| <b>tomillimeters</b>        | function   | F handler                 |            |
| <b>tonode</b>               | function   | F markfonts               |            |
| <b>tonodes</b>              | function   | F register                |            |
| <b>tonut</b>                | function   | F registercache           |            |
| <b>topicsas</b>             | function   | F setfont                 |            |
| <b>topoints</b>             | function   | F setlayer                |            |
| <b>toscaledpoints</b>       | function   | F setruledglyph           |            |
| <b>tosequence</b>           | function   | F setvisual               |            |
| <b>tostring</b>             | function   | <b>vpack</b>              | function   |
| <b>totable</b>              | function   | <b>whatsitcodes</b>       | data table |
| <b>totree</b>               | function   | <b>write</b>              | function   |
| <b>toutf</b>                | function   |                           |            |

## number (context)

|                         |            |                       |          |
|-------------------------|------------|-----------------------|----------|
|                         | function   | <b>tol6dot16</b>      | function |
| <b>basepoints</b>       | function   | <b>tobasepoints</b>   | function |
| <b>bytetodecimal</b>    | function   | <b>tobitstring</b>    | function |
| <b>compactfloat</b>     | function   | <b>tocentimeters</b>  | function |
| <b>decimaltobyte</b>    | function   | <b>tociceros</b>      | function |
| <b>dimenfactors</b>     | data table | <b>tocontext</b>      | function |
| <b>formatted</b>        | function   | <b>todidots</b>       | function |
| <b>formattedfloat</b>   | function   | <b>todimen</b>        | function |
| <b>formattedinteger</b> | function   | <b>toediths</b>       | function |
| <b>fractiontobyte</b>   | function   | <b>toevenhex</b>      | function |
| <b>idiv</b>             | function   | <b>toinches</b>       | function |
| <b>maxdimen</b>         | number     | <b>tomillimeters</b>  | function |
| <b>nopts</b>            | function   | <b>tonumberf</b>      | function |
| <b>nubasepoints</b>     | function   | <b>tonumberg</b>      | function |
| <b>nupoints</b>         | function   | <b>topics</b>         | function |
| <b>percent</b>          | function   | <b>topoints</b>       | function |
| <b>points</b>           | function   | <b>toscaled</b>       | function |
| <b>pts</b>              | function   | <b>toscaledpoints</b> | function |
| <b>signed</b>           | function   | <b>totoves</b>        | function |
| <b>sparseexponent</b>   | function   | <b>valid</b>          | function |
| <b>splitdimen</b>       | function   |                       |          |

## objects (context)

|                   |          |                  |          |
|-------------------|----------|------------------|----------|
| <b>data</b>       | table    | <b>page</b>      | function |
| <b>dimensions</b> | function | <b>reference</b> | function |
| <b>found</b>      | function | <b>register</b>  | function |
| <b>n</b>          | number   | <b>restore</b>   | function |

# optional (context)

## **curl** table

- F escape
- F fetch
- F getversion
- F initialize
- F unescape

## **foreign** table

- F abivalues
- F getbuffer
- F initialize
- F load
- F newbuffer
- F totable
- F types

## **ghostscript** table

- F execute
- F initialize

## **graphicsmagick** table

- F execute
- F getnoisetypes
- F initialize

## **hb** table

- F getshapers
- F getversion
- F initialize
- F loadfont
- F shapestring

## **imagemagick** table

- F execute
- F initialize

## **kpse** table

- F expand\_braces
- F expand\_path
- F expand\_var
- F find\_file
- F find\_files
- F get\_file\_types
- F initialize
- F readable\_file
- F set\_program\_name
- F var\_value

## **library** table

- F load

## **loaded** table

## **lz4** table

- F compress
- F decompresssize
- F framecompress
- F framedecompress
- F initialize

## **lzma** table

- F compress
- F decompress
- F initialize

## **lzo** table

- F compress
- F decompresssize
- F initialize

## **mujs** table

- F dofile
- F execute
- F initialize
- F reset
- F setclosefile
- F setconsole
- F setfindfile
- F setopenfile
- F setreadfile
- F setseekfile

## **mysql** table

- F close
- F execute
- F getmessage
- F initialize
- F open

## **openssl** table

- F getversion
- F initialize
- F sign
- F verify

## **postgres** table

- F close

F execute  
F getmessage  
F initialize  
F open

**sqlite**            **table**

F close  
F execute  
F getmessage  
F initialize

F open

**zint**            **table**

F execute  
F initialize

**zstd**            **table**

F compress  
F decompress  
F initialize

## os (basic lua)

|                       |                     |                      |                     |
|-----------------------|---------------------|----------------------|---------------------|
| <b>__getenv__</b>     | function            | <b>platform</b>      | string              |
| <b>__setenv__</b>     | function            | <b>remove</b>        | overloaded function |
| <b>binsuffix</b>      | string              | <b>rename</b>        | overloaded function |
| <b>binsuffixes</b>    | table               | <b>resultof</b>      | function            |
| <b>bits</b>           | number              | <b>runtime</b>       | function            |
| <b>clock</b>          | function            | <b>selfarg</b>       | table               |
| <b>converttime</b>    | function            | <b>selfbin</b>       | string              |
| <b>date</b>           | overloaded function | <b>selfcore</b>      | string              |
| <b>difftime</b>       | function            | <b>selfdir</b>       | string              |
| <b>enableansi</b>     | function            | <b>selflink</b>      | string              |
| <b>env</b>            | data table          | <b>selfname</b>      | string              |
| <b>execute</b>        | overloaded function | <b>selfpath</b>      | string              |
| <b>exit</b>           | overloaded function | <b>serialwrite</b>   | function            |
| <b>fulltime</b>       | function            | <b>setenv</b>        | overloaded function |
| <b>getcodepage</b>    | function            | <b>setexitcode</b>   | function            |
| <b>getenv</b>         | overloaded function | <b>setlocale</b>     | overloaded function |
| <b>getnamevalues</b>  | function            | <b>sleep</b>         | function            |
| <b>gettimeofday</b>   | function            | <b>startuptime</b>   | function            |
| <b>gettypevalues</b>  | function            | <b>time</b>          | function            |
| <b>getunamefields</b> | function            | <b>timezone</b>      | function            |
| <b>isleapyear</b>     | function            | <b>tmpname</b>       | function            |
| <b>launch</b>         | function            | <b>today</b>         | function            |
| <b>libsuffix</b>      | string              | <b>type</b>          | string              |
| <b>localtime</b>      | function            | <b>uname</b>         | function            |
| <b>name</b>           | string              | <b>uuid</b>          | function            |
| <b>newline</b>        | string              | <b>validdatetime</b> | function            |
| <b>nofdays</b>        | function            | <b>weekday</b>       | function            |
| <b>now</b>            | function            | <b>where</b>         | function            |
| <b>pipeto</b>         | function            | <b>which</b>         | function            |

## package (basic lua)

|                       |          |                    |          |
|-----------------------|----------|--------------------|----------|
| <b>config</b>         | string   | <b>loadlib</b>     | function |
| <b>cpath</b>          | string   | <b>luapaths</b>    | function |
| <b>extralibpath</b>   | function | <b>path</b>        | string   |
| <b>extralibpaths</b>  | function | <b>poplibpath</b>  | function |
| <b>extralualpath</b>  | function | <b>popluapath</b>  | function |
| <b>extralualpaths</b> | function | <b>preload</b>     | table    |
| <b>helpers</b>        | table    | <b>pushlibpath</b> | function |
| <b>libpaths</b>       | function | <b>pushluapath</b> | function |
| <b>loaded</b>         | table    | <b>searchers</b>   | table    |
| <b>loaders</b>        | table    | <b>searchpath</b>  | function |

# pagebuilders (context)

## **columnsets** table

- F add
- F addmvl
- F block
- F blockrows
- F check
- F checkmvl
- F clean
- F define
- F definesub
- F delayedsheet
- F finishflush
- F flushareas
- F flushcolumn
- F goto
- F gotoslot
- F limit
- F noto
- F prepareflush
- F presetsheets
- F presetspreadsheets
- F put
- F putdirect
- F registerarea
- F registersheet
- F registerspreadsheets
- F reset
- F resetdirect

- F reshape
- F setarea
- F setextra
- F sethsize
- F sethspace
- F setlines
- F setmvl
- F setpresent
- F setproperties
- F setstart
- F shape
- F showshape
- F state
- F status
- F submvl
- F submvlbalance

## **injections** table

- F flushafter
- F flushbefore
- F save

## **mixedcolumns** table

- F cleanup
- F finalize
- F getlist
- F getrest
- F getsplit
- F setsplit

pdf (context)

**immediateobj** function

## pdf (extra tex)

|                          |          |                        |          |
|--------------------------|----------|------------------------|----------|
| <b>arraytotable</b>      | function | <b>getnumber</b>       | function |
| <b>close</b>             | function | <b>getobjectrange</b>  | function |
| <b>closestream</b>       | function | <b>getpage</b>         | function |
| <b>dictionarytotable</b> | function | <b>getpages</b>        | function |
| <b>getarray</b>          | function | <b>getpermissions</b>  | function |
| <b>getboolean</b>        | function | <b>getsize</b>         | function |
| <b>getbox</b>            | function | <b>getstatus</b>       | function |
| <b>getcatalog</b>        | function | <b>getstatusvalues</b> | function |
| <b>getdictionary</b>     | function | <b>getstream</b>       | function |
| <b>getencodingvalues</b> | function | <b>getstring</b>       | function |
| <b>getfieldtypes</b>     | function | <b>gettrailer</b>      | function |
| <b>getfromarray</b>      | function | <b>getversion</b>      | function |
| <b>getfromdictionary</b> | function | <b>new</b>             | function |
| <b>getfromobject</b>     | function | <b>open</b>            | function |
| <b>getfromreference</b>  | function | <b>openfile</b>        | function |
| <b>getfromstream</b>     | function | <b>openstream</b>      | function |
| <b>getinfo</b>           | function | <b>pagestotable</b>    | function |
| <b>getinteger</b>        | function | <b>readfromstream</b>  | function |
| <b>getmemoryusage</b>    | function | <b>readwholestream</b> | function |
| <b>getname</b>           | function | <b>type</b>            | function |
| <b>getnofobjects</b>     | function | <b>unencrypt</b>       | function |
| <b>getnofpages</b>       | function |                        |          |

# physics (context)

**units** table

F registershortcut

F registerunit

D tables

## pngdecode (extra tex)

|                    |          |                        |          |
|--------------------|----------|------------------------|----------|
| <b>applyfilter</b> | function | <b>setexperiment</b>   | function |
| <b>expand</b>      | function | <b>splitmask</b>       | function |
| <b>frompalette</b> | function | <b>tocmyk</b>          | function |
| <b>interlace</b>   | function | <b>togray</b>          | function |
| <b>makemask</b>    | function | <b>tomask</b>          | function |
| <b>palettemask</b> | function | <b>transparentmask</b> | function |
| <b>reduce</b>      | function |                        |          |

## posit (extra lua)

|                   |          |                  |          |
|-------------------|----------|------------------|----------|
| <b>NaN</b>        | function | <b>exp2</b>      | function |
| <b>NaNR</b>       | function | <b>expand</b>    | function |
| <b>__add</b>      | function | <b>floor</b>     | function |
| <b>__band</b>     | function | <b>frombyte</b>  | function |
| <b>__bor</b>      | function | <b>fromchar</b>  | function |
| <b>__bxor</b>     | function | <b>fromposit</b> | function |
| <b>__div</b>      | function | <b>integer</b>   | function |
| <b>__eq</b>       | function | <b>log</b>       | function |
| <b>__le</b>       | function | <b>log10</b>     | function |
| <b>__lt</b>       | function | <b>log1p</b>     | function |
| <b>__mul</b>      | function | <b>log2</b>      | function |
| <b>__name</b>     | string   | <b>logb</b>      | function |
| <b>__pow</b>      | function | <b>max</b>       | function |
| <b>__shl</b>      | function | <b>min</b>       | function |
| <b>__shr</b>      | function | <b>modf</b>      | function |
| <b>__sub</b>      | function | <b>new</b>       | function |
| <b>__tostring</b> | function | <b>pow</b>       | function |
| <b>__unm</b>      | function | <b>rotate</b>    | function |
| <b>abs</b>        | function | <b>round</b>     | function |
| <b>acos</b>       | function | <b>rounded</b>   | function |
| <b>asin</b>       | function | <b>shift</b>     | function |
| <b>atan</b>       | function | <b>sin</b>       | function |
| <b>band</b>       | function | <b>sqrt</b>      | function |
| <b>bor</b>        | function | <b>tan</b>       | function |
| <b>bxor</b>       | function | <b>tobyte</b>    | function |
| <b>ceil</b>       | function | <b>tochar</b>    | function |
| <b>conj</b>       | function | <b>tonumber</b>  | function |
| <b>copy</b>       | function | <b>toposit</b>   | function |
| <b>cos</b>        | function | <b>tostring</b>  | function |
| <b>exp</b>        | function |                  |          |

## potrace (extra tex)

|                    |          |                         |          |
|--------------------|----------|-------------------------|----------|
| <b>checked</b>     | function | <b>getnewfields</b>     | function |
| <b>concat</b>      | function | <b>getpolicyvalues</b>  | function |
| <b>contourplot</b> | function | <b>getprocessfields</b> | function |
| <b>convert</b>     | function | <b>new</b>              | function |
| <b>count</b>       | function | <b>process</b>          | function |
| <b>flush</b>       | function | <b>setbitmap</b>        | function |
| <b>free</b>        | function | <b>stripped</b>         | function |
| <b>fromfile</b>    | function | <b>totable</b>          | function |
| <b>getbitmap</b>   | function | <b>trace</b>            | function |

# publications (context)

|                         |            |                             |            |
|-------------------------|------------|-----------------------------|------------|
| <b>addtexentry</b>      | function   | <b>concatstate</b>          | function   |
| <b>analyze</b>          | function   | <b>converttoxml</b>         | function   |
| <b>anywhere</b>         | function   | <b>currentspecification</b> | table      |
| <b>authorcache</b>      | data table | S author                    |            |
| <b>authorcollapsers</b> | data table | S comment                   |            |
| <b>authorhashers</b>    | table      | S copyright                 |            |
| F invertedshort         |            | S name                      |            |
| F normal                |            | S version                   |            |
| F normalinverted        |            | D virtual                   |            |
| F normalshort           |            | <b>datasets</b>             | table      |
| F sequential            |            | <b>detailed</b>             | table      |
| F sequentialshort       |            | <b>endnotes_to_btx</b>      | function   |
| F short                 |            | <b>enhancer</b>             | table      |
| <b>authormap</b>        | data table | S arguments                 |            |
| <b>authortoregister</b> | function   | B dirty                     |            |
| <b>btx</b>              | table      | N steps                     |            |
| <b>casters</b>          | table      | <b>enhancers</b>            | table      |
| F author                |            | F details                   |            |
| F keyword               |            | F order                     |            |
| F pagenumber            |            | F suffixes                  |            |
| F range                 |            | <b>finder</b>               | function   |
| <b>checkeddataset</b>   | function   | <b>firstofrange</b>         | function   |
| <b>citevariants</b>     | table      | <b>found</b>                | function   |
| F author                |            | <b>get</b>                  | function   |
| F authornum             |            | <b>getcasted</b>            | function   |
| F authoryear            |            | <b>getdetail</b>            | function   |
| F authoryears           |            | <b>getdirect</b>            | function   |
| F category              |            | <b>getfaster</b>            | function   |
| F default               |            | <b>getfield</b>             | function   |
| F entry                 |            | <b>getfuzzy</b>             | function   |
| F index                 |            | <b>getindex</b>             | function   |
| F keywords              |            | <b>inspectors</b>           | data table |
| F num                   |            | <b>journals</b>             | table      |
| F page                  |            | F abbreviated               |            |
| F short                 |            | F add                       |            |
| F tag                   |            | F expanded                  |            |
| F textnum               |            | F load                      |            |
| F year                  |            | F save                      |            |
| <b>collected</b>        | data table | <b>lastofrange</b>          | function   |
| <b>components</b>       | table      | <b>lists</b>                | table      |
| F author                |            | F collectentries            |            |

|                            |          |
|----------------------------|----------|
| F combiinlist              |          |
| F fetchentries             |          |
| F filterall                |          |
| F flushcombi               |          |
| F flushentry               |          |
| F flushtag                 |          |
| F nofregistered            |          |
| F prepareentries           |          |
| F register                 |          |
| F sameasprevious           |          |
| F uservariable             |          |
| <b>listvariants</b>        | table    |
| F default                  |          |
| F index                    |          |
| F num                      |          |
| F short                    |          |
| F tag                      |          |
| <b>load</b>                | function |
| <b>loadbibdata</b>         | function |
| <b>loaddefinitionfile</b>  | function |
| <b>loaders</b>             | table    |
| F bbl                      |          |
| F bib                      |          |
| F buffer                   |          |
| F endnote                  |          |
| F json                     |          |
| F lua                      |          |
| F refman                   |          |
| F registercleaner          |          |
| F xml                      |          |
| <b>loadreplacementfile</b> | function |
| <b>meanings</b>            | table    |
| <b>new</b>                 | function |
| <b>okay</b>                | function |
| <b>oneorange</b>           | function |
| <b>parenttag</b>           | function |
| <b>permitted</b>           | function |
| <b>prerollcmdstring</b>    | function |
| <b>refman_to_btx</b>       | function |
| <b>resolvedname</b>        | function |
| <b>save</b>                | function |
| <b>savers</b>              | table    |
| F bib                      |          |
| F lua                      |          |
| F xml                      |          |
| <b>search</b>              | function |
| <b>setcategory</b>         | function |
| <b>setspecification</b>    | function |
| <b>singularorplural</b>    | function |
| <b>sortedentries</b>       | function |
| <b>sortmethods</b>         | table    |
| <b>specifications</b>      | table    |
| <b>splitauthor</b>         | function |
| <b>splitoneauthor</b>      | function |
| <b>statistics</b>          | table    |
| N nofbytes                 |          |
| N nofdatasets              |          |
| N nofdefinitions           |          |
| N nofshortcuts             |          |
| <b>tables</b>              | table    |
| D implicits                |          |
| D origins                  |          |
| D privates                 |          |
| D sets                     |          |
| D specials                 |          |
| D types                    |          |
| D virtuals                 |          |
| <b>tags</b>                | function |
| <b>tracers</b>             | table    |
| F showdatasetauthors       |          |
| F showdatasetcompleteness  |          |
| F showdatasetfields        |          |
| F showentry                |          |
| F showfields               |          |
| F showhashedauthors        |          |
| F showtables               |          |
| F showvariants             |          |
| <b>typesetters</b>         | table    |
| F author                   |          |
| F string                   |          |
| <b>usedataset</b>          | function |
| <b>usedentries</b>         | function |
| <b>writers</b>             | table    |
| F author                   |          |
| F keyword                  |          |
| F pagenumber               |          |
| F range                    |          |

# qrcodegen (context)

**bitmap** function  
**generate** function

## regimes (context)

|                    |            |
|--------------------|------------|
| <b>backmapping</b> | data table |
| <b>cleanup</b>     | function   |
| <b>disable</b>     | function   |
| <b>enable</b>      | function   |
| <b>fromregime</b>  | function   |
| <b>list</b>        | function   |

|                  |            |
|------------------|------------|
| <b>mapping</b>   | data table |
| <b>pop</b>       | function   |
| <b>process</b>   | function   |
| <b>push</b>      | function   |
| <b>toregime</b>  | function   |
| <b>translate</b> | function   |

# resolvers (context)

|                                     |            |                                |            |
|-------------------------------------|------------|--------------------------------|------------|
| <b>allprefixes</b>                  | function   | <b>findfiles</b>               | function   |
| <b>appendhash</b>                   | function   | <b>findgivenfile</b>           | function   |
| <b>automount</b>                    | function   | <b>findgivenfiles</b>          | function   |
| <b>booleanvariable</b>              | function   | <b>findlib</b>                 | function   |
| <b>cacheversion</b>                 | string     | <b>findpath</b>                | function   |
| <b>checkedvariable</b>              | function   | <b>findpk</b>                  | function   |
| <b>cleanedpathlist</b>              | function   | <b>findtexfile</b>             | function   |
| <b>cleaners</b>                     | data table | <b>findwildcardfile</b>        | function   |
| <b>cleanpath</b>                    | function   | <b>findwildcardfiles</b>       | function   |
| <b>cleanpathlist</b>                | function   | <b>formatofsuffix</b>          | function   |
| <b>cleanupbinfile</b>               | function   | <b>formatofvariable</b>        | function   |
| <b>concatinators</b>                | data table | <b>formats</b>                 | data table |
| <b>configbanner</b>                 | string     | <b>foundintree</b>             | function   |
| <b>configurationfiles</b>           | function   | <b>foundintrees</b>            | function   |
| <b>dangerous</b>                    | data table | <b>generators</b>              | data table |
| <b>datastate</b>                    | function   | <b>get_from_content</b>        | function   |
| <b>decompressors</b>                | table      | <b>getdetails</b>              | function   |
| F register                          |            | <b>getenv</b>                  | function   |
| F unregister                        |            | <b>getextrapaths</b>           | function   |
| <b>defaultsuffixes</b>              | table      | <b>getfilehashes</b>           | function   |
| <b>dirstatus</b>                    | function   | <b>gethashes</b>               | function   |
| <b>dowithfilesandreport</b>         | function   | <b>getownpath</b>              | function   |
| <b>dowithfilesintree</b>            | function   | <b>getreadfilename</b>         | function   |
| <b>dowithpath</b>                   | function   | <b>hashers</b>                 | data table |
| <b>dowithvariable</b>               | function   | <b>homedir</b>                 | string     |
| <b>executers</b>                    | table      | <b>ignorelibrary</b>           | function   |
| <b>expandbraces</b>                 | function   | <b>initialized</b>             | function   |
| <b>expandedpathfromlist</b>         | function   | <b>installinputfilehandler</b> | function   |
| <b>expandedpathlist</b>             | function   | <b>installinputlinehandler</b> | function   |
| <b>expandedpathlistfromvariable</b> | function   | <b>jobpath</b>                 | function   |
| <b>expandpath</b>                   | function   | <b>jobs</b>                    | table      |
| <b>expandpathfromvariable</b>       | function   | F collectstructure             |            |
| <b>expansion</b>                    | function   | F currentcomponent             |            |
| <b>extendtexmfvariable</b>          | function   | F currentenvironment           |            |
| <b>filtered_from_content</b>        | function   | F currentproduct               |            |
| <b>find_file</b>                    | function   | F currentproject               |            |
| <b>find_files</b>                   | function   | F currentstructure             |            |
| <b>findbinfile</b>                  | function   | F justacomponent               |            |
| <b>findctxfile</b>                  | function   | F namelist                     |            |
| <b>finders</b>                      | data table | D processors                   |            |
| <b>findfile</b>                     | function   | F productcomponent             |            |

|                       |            |                               |            |
|-----------------------|------------|-------------------------------|------------|
| F usefile             |            | <b>registerextrapath</b>      | function   |
| <b>joinpath</b>       | function   | <b>registerfile</b>           | function   |
| <b>knownvariables</b> | function   | <b>registerfilehash</b>       | function   |
| <b>libraries</b>      | table      | <b>registerintrees</b>        | function   |
| F optionalloaded      |            | <b>registermethod</b>         | function   |
| F validoptional       |            | <b>registerzipfile</b>        | function   |
| <b>load</b>           | function   | <b>relations</b>              | data table |
| <b>loadbinfile</b>    | function   | <b>renew</b>                  | function   |
| <b>loaders</b>        | data table | <b>renewcache</b>             | function   |
| <b>loadlualib</b>     | function   | <b>repath</b>                 | function   |
| <b>loadtexfile</b>    | function   | <b>reset</b>                  | function   |
| <b>loadtime</b>       | function   | <b>resetextrapaths</b>        | function   |
| <b>locateformat</b>   | function   | <b>resetresolve</b>           | function   |
| <b>locators</b>       | data table | <b>resolve</b>                | function   |
| <b>luacnffallback</b> | string     | <b>savers</b>                 | data table |
| <b>luacnfname</b>     | string     | <b>scandata</b>               | function   |
| <b>luacnfspec</b>     | string     | <b>scanfiles</b>              | function   |
| <b>luacnfstate</b>    | string     | <b>schemes</b>                | table      |
| <b>macros</b>         | table      | F cleanname                   |            |
| F convertfile         |            | F fetchstring                 |            |
| F decodecomment       |            | F fetchtable                  |            |
| F enablecomment       |            | F install                     |            |
| F encodecomment       |            | <b>setdynamic</b>             | function   |
| F preprocessed        |            | <b>setenv</b>                 | function   |
| F processmk           |            | <b>showdetails</b>            | function   |
| F processmkLx         |            | <b>showpath</b>               | function   |
| F processmkvi         |            | <b>simplescanfiles</b>        | function   |
| F version             |            | <b>splitconfigurationpath</b> | function   |
| <b>maxreadlevel</b>   | number     | <b>splitexpansions</b>        | function   |
| <b>methodhandler</b>  | function   | <b>splitmethod</b>            | function   |
| <b>missinglibrary</b> | function   | <b>splitpath</b>              | function   |
| <b>openbinfile</b>    | function   | <b>stackpath</b>              | function   |
| <b>openers</b>        | data table | <b>starttiming</b>            | function   |
| <b>openfile</b>       | function   | <b>stoptiming</b>             | function   |
| <b>opentexfile</b>    | function   | <b>suffixes</b>               | data table |
| <b>ownpath</b>        | string     | <b>suffixmap</b>              | data table |
| <b>popextrapath</b>   | function   | <b>suffixofformat</b>         | function   |
| <b>popinputname</b>   | function   | <b>texdatablob</b>            | function   |
| <b>poppath</b>        | function   | <b>toppath</b>                | function   |
| <b>prefixes</b>       | data table | <b>tracers</b>                | data table |
| <b>prependhash</b>    | function   | <b>unexpandedpath</b>         | function   |
| <b>pushextrapath</b>  | function   | <b>unexpandedpathlist</b>     | function   |
| <b>pushinputname</b>  | function   | <b>unresolve</b>              | function   |
| <b>pushpath</b>       | function   | <b>updaterelations</b>        | function   |

|                      |            |                                 |          |
|----------------------|------------|---------------------------------|----------|
| <b>updatescript</b>  | function   | <b>variable</b>                 | function |
| <b>uselibrary</b>    | function   | <b>variableofformat</b>         | function |
| <b>usertypes</b>     | data table | <b>variableofformatorsuffix</b> | function |
| <b>usezipfile</b>    | function   | <b>wildcardpattern</b>          | function |
| <b>validatedpath</b> | function   |                                 |          |

## sandbox (context)

|                         |          |
|-------------------------|----------|
| <b>blockrequire</b>     | function |
| <b>disablelibraries</b> | function |
| <b>disablerunners</b>   | function |
| <b>enable</b>           | function |
| <b>filehandlerone</b>   | function |
| <b>filehandlertwo</b>   | function |
| <b>finalizer</b>        | function |
| <b>getrunner</b>        | function |
| <b>initializer</b>      | function |
| <b>iohandler</b>        | function |
| <b>logcalls</b>         | function |
| <b>logfiles</b>         | function |
| <b>original</b>         | function |
| <b>overload</b>         | function |

|                          |          |
|--------------------------|----------|
| <b>possiblepath</b>      | function |
| <b>redefine</b>          | function |
| <b>register</b>          | function |
| <b>registerbinary</b>    | function |
| <b>registerlibrary</b>   | function |
| <b>registerroot</b>      | function |
| <b>registerrunner</b>    | function |
| <b>report</b>            | function |
| <b>setfilenamelogger</b> | function |
| <b>setlogger</b>         | function |
| <b>setreporter</b>       | function |
| <b>settrace</b>          | function |
| <b>validfilename</b>     | function |

# scripts (context)

**autofontfeature** table

F disable

F enable

F handler

**colors** data table

**decomposehangul** function

**defaults** table

N inter\_char\_half\_shrink\_factor

N inter\_char\_half\_stretch\_factor

N inter\_char\_hangul\_penalty

N inter\_char\_quarter\_shrink\_factor

N inter\_char\_quarter\_stretch\_factor

N inter\_char\_shrink\_factor

N inter\_char\_stretch\_factor

N inter\_word\_stretch\_factor

**getdata** function

**getinjector** function

**getsplitter** function

**getstatus** function

**handlers** data table

**helpers** data table

**injectors** data table

**inserters** table

F nobreakspace\_after

F nobreakspace\_before

F space\_after

F space\_before

F zerowidthspace\_after

F zerowidthspace\_before

**installdataset** function

**installmethod** function

**numbertodataset** data table

**numbertohandler** data table

**reset** function

**set** function

**setstatus** function

**splitters** data table

## serial (context)

**\_\_gc** function  
**\_\_name** string  
**\_\_tostring** function  
**close** function

**open** function  
**send** function  
**tostring** function  
**write** function

## set (context)

**contains** function  
**create** function  
**tolist** function

**tonumber** function  
**totable** function

## sha2 (extra lua)

**HASH256** function  
**HASH384** function  
**HASH512** function  
**HEX256** function  
**HEX384** function  
**HEX512** function  
**digest256** function  
**digest384** function  
**digest512** function

**hash256** function  
**hash384** function  
**hash512** function  
**hex256** function  
**hex384** function  
**hex512** function  
**sum256** function  
**sum384** function  
**sum512** function

## sio (extra lua)

**read2dot14** function  
**readbytes** function  
**readbytetable** function  
**readcardinal1** function  
**readcardinal1le** function  
**readcardinal2** function  
**readcardinal2le** function  
**readcardinal3** function  
**readcardinal3le** function  
**readcardinal4** function  
**readcardinal4le** function  
**readcardinaltable** function  
**readcline** function  
**readcstring** function  
**readdouble** function  
**readdoublele** function  
**readfixed2** function  
**readfixed4** function  
**readfloat** function  
**readfloatle** function

**readfloatle12** function  
**readfloatle6** function  
**readinteger1** function  
**readinteger1le** function  
**readinteger2** function  
**readinteger2le** function  
**readinteger3** function  
**readinteger3le** function  
**readinteger4** function  
**readinteger4le** function  
**readintegertable** function  
**tocardinal1** function  
**tocardinal1le** function  
**tocardinal2** function  
**tocardinal2le** function  
**tocardinal3** function  
**tocardinal3le** function  
**tocardinal4** function  
**tocardinal4le** function

# socket (extra lua)

|                       |          |                   |          |
|-----------------------|----------|-------------------|----------|
| <b>BLOCKSIZE</b>      | number   | <b>sinkt</b>      | table    |
| <b>_SETSIZE</b>       | number   | F close-when-done |          |
| <b>_SOCKETINVALID</b> | number   | F default         |          |
| <b>bind</b>           | function | F http-chunked    |          |
| <b>choose</b>         | function | F keep-open       |          |
| <b>connect</b>        | function | <b>skip</b>       | function |
| <b>connect4</b>       | function | <b>sleep</b>      | function |
| <b>connect6</b>       | function | <b>source</b>     | function |
| <b>dns</b>            | table    | <b>sourcet</b>    | table    |
| F getaddrinfo         |          | F by-length       |          |
| F gethostname         |          | F default         |          |
| F getnameinfo         |          | F http-chunked    |          |
| F tohostname          |          | F until-closed    |          |
| F toip                |          | <b>tcp</b>        | function |
| <b>gettime</b>        | function | <b>tcp4</b>       | function |
| <b>headers</b>        | table    | <b>tcp6</b>       | function |
| F lower               |          | <b>tp</b>         | table    |
| F normalize           |          | N TIMEOUT         |          |
| <b>http</b>           | table    | F connect         |          |
| N TIMEOUT             |          | <b>try</b>        | function |
| S USERAGENT           |          | <b>url</b>        | table    |
| F genericform         |          | F absolute        |          |
| F open                |          | F build           |          |
| F request             |          | F build_path      |          |
| <b>newtry</b>         | function | F escape          |          |
| <b>protect</b>        | function | F parse           |          |
| <b>report</b>         | function | F parse_path      |          |
| <b>select</b>         | function | F unescape        |          |
| <b>sink</b>           | function |                   |          |

# sorters (context)

**basicsorter**      function  
**comparers**      table  
    F basic  
**constants**      table  
    S defaultdigits  
    S defaultlanguage  
    S defaultmethod  
    N digitsmaximum  
    N digitsoffset  
    N ignoredoffset  
    N replacementoffset  
**definitions**      data table

**firstofsplit**      function  
**packch**            function  
**packuc**            function  
**replacementlist** function  
**setlanguage**      function  
**sort**                function  
**splitters**         table  
    F utf  
**strip**              function  
**tracers**            data table  
**update**             function

## sparse (extra lua)

**concat**    function  
**get**        function  
**max**        function  
**min**        function  
**new**        function

**range**     function  
**restore**   function  
**set**        function  
**traverse**  function  
**wipe**      function

# statistics (context)

**benchmarktimer** function  
**checkfmtstatus** function  
**currenttime** function  
**elapsed** function  
**elapsedindeed** function  
**elapsedseconds** function  
**elapsedtime** function  
**enable** boolean  
**feedback** table  
    F info  
    F processtates  
    F register  
    F reportstates  
    F setstate  
**formatruntime** function

**hastiming** function  
**memused** function  
**register** function  
**resettiming** function  
**runtime** function  
**savefmtstatus** function  
**show** function  
**showmemory** function  
**showusage** function  
**starttiming** function  
**stoptiming** function  
**threshold** number  
**timed** function  
**tracefunction** function

## status (basic tex)

|                              |          |                          |          |
|------------------------------|----------|--------------------------|----------|
| <b>getbalancestate</b>       | function | <b>getluastate</b>       | function |
| <b>getbufferstate</b>        | function | <b>getmarkstate</b>      | function |
| <b>getcallbackstate</b>      | function | <b>getmvlstate</b>       | function |
| <b>getconstants</b>          | function | <b>getneststate</b>      | function |
| <b>geterrorlinestate</b>     | function | <b>getnodestate</b>      | function |
| <b>geterrorstate</b>         | function | <b>getparameterstate</b> | function |
| <b>getexpandstate</b>        | function | <b>getpoolstate</b>      | function |
| <b>getfilestate</b>          | function | <b>getreadstate</b>      | function |
| <b>getfontstate</b>          | function | <b>getsavestate</b>      | function |
| <b>gethalferrorlinestate</b> | function | <b>getsparsestate</b>    | function |
| <b>gethashstate</b>          | function | <b>getstringstate</b>    | function |
| <b>gethyphenationstate</b>   | function | <b>gettexstate</b>       | function |
| <b>getinputstate</b>         | function | <b>gettokenstate</b>     | function |
| <b>getinsertstate</b>        | function | <b>getwarningstate</b>   | function |
| <b>getlanguagestate</b>      | function | <b>iocodes</b>           | table    |
| <b>getlinebreakstate</b>     | function | <b>list</b>              | function |
| <b>getlookupstate</b>        | function | <b>resetmessages</b>     | function |

## storage (context)

|                   |          |                        |            |
|-------------------|----------|------------------------|------------|
| <b>allocate</b>   | function | <b>noftables</b>       | number     |
| <b>data</b>       | table    | <b>register</b>        | function   |
| <b>mark</b>       | function | <b>shared</b>          | data table |
| <b>marked</b>     | function | <b>storedfunctions</b> | data table |
| <b>max</b>        | number   | <b>strip</b>           | boolean    |
| <b>min</b>        | number   | <b>tofmodules</b>      | number     |
| <b>nofmodules</b> | number   | <b>toftables</b>       | number     |

## streams (context)

**collect**      function  
**disable**     function  
**enable**      function  
**flush**        function  
**initialize**   function

**push**         function  
**start**        function  
**stop**         function  
**synchronize** function

# string (basic lua)

|                        |          |                        |          |
|------------------------|----------|------------------------|----------|
| <b>autodouble</b>      | function | <b>optionalquoted</b>  | function |
| <b>autosingle</b>      | function | <b>pack</b>            | function |
| <b>booleanstring</b>   | function | <b>packrowscolumns</b> | function |
| <b>byte</b>            | function | <b>packsize</b>        | function |
| <b>bytepairs</b>       | function | <b>quote</b>           | function |
| <b>bytes</b>           | function | <b>quoted</b>          | function |
| <b>bytetable</b>       | function | <b>rep</b>             | function |
| <b>char</b>            | function | <b>replacenewlines</b> | function |
| <b>characterpairs</b>  | function | <b>reverse</b>         | function |
| <b>characters</b>      | function | <b>split</b>           | function |
| <b>checkedsplit</b>    | function | <b>splitintolines</b>  | function |
| <b>chrtointeger</b>    | function | <b>splitlines</b>      | function |
| <b>collapsespaces</b>  | function | <b>splitup</b>         | function |
| <b>containsws</b>      | function | <b>strip</b>           | function |
| <b>count</b>           | function | <b>sub</b>             | function |
| <b>dectointeger</b>    | function | <b>texhashed</b>       | function |
| <b>dump</b>            | function | <b>texnewlines</b>     | function |
| <b>escapedpattern</b>  | function | <b>tformat</b>         | function |
| <b>escapedquotes</b>   | function | <b>toHEX</b>           | function |
| <b>f6</b>              | function | <b>toboolean</b>       | function |
| <b>find</b>            | function | <b>tobytes</b>         | function |
| <b>format</b>          | function | <b>tocontext</b>       | function |
| <b>formatter</b>       | function | <b>todec</b>           | function |
| <b>formatters</b>      | function | <b>todimen</b>         | function |
| <b>fullstrip</b>       | function | <b>tohex</b>           | function |
| <b>gmatch</b>          | function | <b>tonodes</b>         | function |
| <b>gsub</b>            | function | <b>topattern</b>       | function |
| <b>hashes</b>          | table    | <b>totable</b>         | function |
| <b>hextocharacters</b> | function | <b>tounicode16</b>     | function |
| <b>hextointeger</b>    | function | <b>toutf</b>           | function |
| <b>is_boolean</b>      | function | <b>toutf16</b>         | function |
| <b>is_empty</b>        | function | <b>toutf32</b>         | function |
| <b>itself</b>          | function | <b>toutf8</b>          | function |
| <b>len</b>             | function | <b>tracedchar</b>      | function |
| <b>limit</b>           | function | <b>unesapedquotes</b>  | function |
| <b>linetable</b>       | function | <b>unpack</b>          | function |
| <b>longtostring</b>    | function | <b>unquote</b>         | function |
| <b>lower</b>           | function | <b>unquoted</b>        | function |
| <b>match</b>           | function | <b>upper</b>           | function |
| <b>nospaces</b>        | function | <b>utf16toutf8</b>     | function |
| <b>octtointeger</b>    | function | <b>utfcharacter</b>    | function |

**utfcharacters** function  
**utfcharacterstable** function  
**utflength** function  
**utfpadd** function  
**utfpadding** function  
**utftabletostring** function

**utfvalue** function  
**utfvalues** function  
**utfvaluetable** function  
**valid** function  
**wordsplitter** function

# structures (context)

|                   |          |                                      |
|-------------------|----------|--------------------------------------|
| <b>allocation</b> | function | F record                             |
| <b>blocks</b>     | table    | F reset                              |
| D collected       |          | F restart                            |
| F define          |          | F restore                            |
| F empty           |          | F save                               |
| F print           |          | F set                                |
| F save            |          | F setlevel                           |
| F select          |          | F setoffset                          |
| F setstate        |          | F setown                             |
| D states          |          | F setstate                           |
| D tobesaved       |          | F setvalue                           |
| F uservariable    |          | F subs                               |
| <b>bookmarks</b>  | table    | D tobesaved                          |
| F finalize        |          | F value                              |
| F flatten         |          | F way                                |
| F installhandler  |          | <b>currentsectionnumber</b> function |
| F merge           |          | <b>descriptions</b> table            |
| S method          |          | <b>documents</b> table               |
| F overload        |          | D data                               |
| F place           |          | F initialize                         |
| F register        |          | F preset                             |
| F setopened       |          | F reset                              |
| F setup           |          | <b>floats</b> table                  |
| <b>counters</b>   | table    | <b>formulas</b> table                |
| F add             |          | <b>helpers</b> table                 |
| F analyze         |          | F analyze                            |
| F check           |          | F formulanumber                      |
| D collected       |          | F merged                             |
| F compact         |          | F page                               |
| F converted       |          | F pageofinternal                     |
| F currentvalue    |          | F prefix                             |
| D data            |          | F prefixlastpage                     |
| F define          |          | F prefixpage                         |
| F first           |          | F simplify                           |
| F get             |          | F title                              |
| F isset           |          | F touserdata                         |
| F last            |          | <b>inserts</b> table                 |
| F next            |          | F attach                             |
| F prev            |          | D data                               |
| F previous        |          | F define                             |
| F raw             |          | F detach                             |

F getdata  
 F getlocation  
 F getname  
 F getnumber  
 F nofdetached  
 F setlocation  
 F setup  
 D stored  
**itemgroups** table  
 D collected  
 D tobosaved  
**lists** table  
 F addto  
 F analyze  
 F bookmark  
 D cached  
 D collected  
 F discard  
 F enhance  
 F external  
 F filter  
 F formulnumber  
 F getresult  
 F groupindex  
 F hasnumberdata  
 F haspagedata  
 F hastitledata  
 F integrate  
 F iscached  
 D kinds  
 F label  
 F location  
 D names  
 F number  
 D ordered  
 F page  
 F popnesting  
 F prefix  
 F prefixednumber  
 F prefixedpage  
 F process  
 D pushed  
 F pushnesting  
 F rawnumber

F rawrealpage  
 F rawuserpage  
 F realpage  
 F reorder  
 F reordered  
 F savedlistnumber  
 F savedlistprefixednumber  
 F savedlisttitle  
 D sectionblocks  
 F size  
 F title  
 D tobosaved  
 F use  
 F userdata  
 F userpage  
 F uservalue

**marks** table

F number  
 F title

**notes** table

F checkpagechange  
 F define  
 F flushrange  
 F get  
 F getdeltapage  
 F getinternal  
 F getn  
 F getstate  
 F getstorecount  
 F getstoreflushed  
 F hascontent  
 F internal  
 F internalid  
 F listindex  
 D numbers  
 F ordered  
 F postpone  
 F resetpostponed  
 F restore  
 F save  
 F setstate  
 D states  
 F store

**pages** table

F allmarked  
F analyze  
D collected  
F fraction  
F getlabels  
F in\_body  
F is\_odd  
F mark  
F marked  
F markedlist  
N nopages  
F number  
F on\_right  
F save  
D tobesaved  
F toranges

## references

## table

F analyze  
F checked  
F checkedfile  
F checkedfileorurl  
F checkedprogram  
F checkedrealpage  
F checkedurl  
D collected  
U componentsplitter  
F currentmetadata  
F currentorder  
D currentset  
F define  
D defined  
D derived  
F enhance  
D executers  
F export  
F filter  
F filterdefault  
D filters  
D flaginternals  
F forceinnermode  
F from  
D functions  
F get  
F getcurrentlabel

F getcurrentmetadata  
F getcurrentprefixspec  
F getinnermethod  
F getinternalcachedlistreference  
F getinternallistreference  
F getinternalreference  
F getoutermethod  
D handlers  
F identify  
F import  
F inject  
F injectcurrentset  
S innermethod  
F integrate  
D internals  
F load  
F loadpresets  
F mark  
S outermethod  
F pagefromhash  
D pages  
U prefixsplitter  
D productdata  
F realpageofpage  
F referenced  
U referencesplitter  
D referred  
F referredpage  
F registerfinalizer  
F registerinitializer  
F registerpage  
F reset  
D runners  
F set  
F setandgetattribute  
F setinternalreference  
F setlinkmethod  
F setnextinternal  
F setnextorder  
F setreferencerealpage  
F setstructure  
D specials  
F splitcomponent  
F splitprefix

F splitreference  
F synchronizepage  
D tobereferred  
D tobesaved  
D tracedpages  
D usedinternals  
D usedviews  
F valid

**registers** table

F analyze  
D collected  
F compare  
F define  
F enhance  
F extend  
F filter  
F filtercollected  
F finalize  
F findinternal  
F flush  
F get  
F integrate  
F prepare  
F process  
F setmethod  
F sort  
F store  
D tobesaved  
F tweak  
F unique  
F use  
F userdata

**sections** table

F autodepth  
F cct  
D collected  
F current  
F currentblock  
F currentid  
F currentlevel  
F currentsectionindex  
F depthnumber  
F finddata  
F findnumber

F fullnumber  
F getcurrentlevel  
F getlevel  
F getnumber  
F internalreference  
D levelmap  
D levels  
F matchingtilldepth  
F numberatdepth  
F numbers  
F popblock  
F prefixedconverted  
F pushblock  
F register  
D registered  
F reportstructure  
F save  
F set  
F setblock  
F setchecker  
F setentry  
F setinitialblock  
F setlevel  
F setnumber  
F showstructure  
F structuredata  
F title  
D tobesaved  
F typesetnumber  
F userdata  
B verbose

**sets** table

F define  
F get  
F getall  
D setlist

**specials** table

D collected  
F retrieve  
F store  
D tobesaved

**synonyms** table

F analyzed  
D collected

F compare  
F define  
F enhance  
F filter  
F finalize  
F firstuserpage  
F flush  
F isshown  
F isused  
F meaning  
F pages  
F prepare  
F process  
F register  
F registershown  
F registerused  
F reset  
F resetall  
F resetlist  
F resetsshown  
F resetused  
F sort  
F synonym  
D tobesaved  
F userpages

## tags

F analyze  
F checknesting  
F current  
F elementtag  
F enabled  
F exportbox  
F finishexport  
F getdescriptionindex  
F getextradata  
F getid  
F getitemgroup  
F getmetadata  
F getoption  
F getsorting  
F getsynonym  
F gettablecell  
F gettabulatecell  
F gettagreferencedescription

## table

F handler  
F initializeexport  
D labels  
F last  
F lastinchain  
F localexport  
F locatedtag  
D overloads  
F pop  
D properties  
F push  
F registerextradata  
F registermetadata  
F restart  
F setaspect  
F setattributehash  
F setcodepoint  
F setcombination  
F setcombinationpair  
F setconstruct  
F setdescriptionindex  
F setfigure  
F setfloat  
F setformulacontent  
F sethighlight  
F setitem  
F setitemgroup  
F setmpgraphic  
F setnotation  
F setnotationsymbol  
F setparagraph  
F setproperty  
F setpublication  
F setregister  
F setsorting  
F setsynonym  
F settablecell  
F settabulatecell  
F settagdelimitedsymbol  
F settagsubsentencesymbol  
F setupexport  
F setuserproperties  
D specifications  
F start

F stop  
F strip

D taglist

## table (basic lua)

|                        |          |                             |          |
|------------------------|----------|-----------------------------|----------|
| <b>append</b>          | function | <b>pack</b>                 | function |
| <b>are_equal</b>       | function | <b>prepend</b>              | function |
| <b>combine</b>         | function | <b>print</b>                | function |
| <b>compact</b>         | function | <b>remove</b>               | function |
| <b>concat</b>          | function | <b>reverse</b>              | function |
| <b>contains</b>        | function | <b>reversed</b>             | function |
| <b>copy</b>            | function | <b>save</b>                 | function |
| <b>count</b>           | function | <b>sequenced</b>            | function |
| <b>create</b>          | function | <b>serialize</b>            | function |
| <b>derive</b>          | function | <b>setmetatablecall</b>     | function |
| <b>deserialize</b>     | function | <b>setmetatableindex</b>    | function |
| <b>fastcopy</b>        | function | <b>setmetatableindices</b>  | function |
| <b>fastserialize</b>   | function | <b>setmetatablenewindex</b> | function |
| <b>filtered</b>        | function | <b>sort</b>                 | function |
| <b>flattened</b>       | function | <b>sorted</b>               | function |
| <b>fromhash</b>        | function | <b>sortedhash</b>           | function |
| <b>getn</b>            | function | <b>sortedhashkeys</b>       | function |
| <b>has_one_entry</b>   | function | <b>sortedhashonly</b>       | function |
| <b>hashed</b>          | function | <b>sortedindexonly</b>      | function |
| <b>identical</b>       | function | <b>sortedkeys</b>           | function |
| <b>imerge</b>          | function | <b>sortedpairs</b>          | function |
| <b>imerged</b>         | function | <b>sparse</b>               | function |
| <b>insert</b>          | function | <b>strip</b>                | function |
| <b>is_empty</b>        | function | <b>sub</b>                  | function |
| <b>is_simple_table</b> | function | <b>swapped</b>              | function |
| <b>keys</b>            | function | <b>tocontext</b>            | function |
| <b>load</b>            | function | <b>tocsv</b>                | function |
| <b>loweredkeys</b>     | function | <b>tofile</b>               | function |
| <b>makeweak</b>        | function | <b>tohandle</b>             | function |
| <b>merge</b>           | function | <b>tohash</b>               | function |
| <b>merged</b>          | function | <b>toxml</b>                | function |
| <b>mirrored</b>        | function | <b>unique</b>               | function |
| <b>move</b>            | function | <b>unpack</b>               | function |

# tex (basic tex)

|                              |            |                                      |            |
|------------------------------|------------|--------------------------------------|------------|
| <b>amcode</b>                | table      | <b>directives</b>                    | data table |
| <b>attribute</b>             | table      | <b>discoptioncodes</b>               | data table |
| <b>attributetracking</b>     | function   | <b>discpartcodes</b>                 | data table |
| <b>automigrationcodes</b>    | data table | <b>dontcomplain</b>                  | function   |
| <b>autoparagraphcodes</b>    | data table | <b>doublescriptoptioncodes</b>       | data table |
| <b>badness</b>               | function   | <b>enableprimitives</b>              | function   |
| <b>badnessmodecodes</b>      | data table | <b>error</b>                         | function   |
| <b>balance</b>               | function   | <b>expandasvalue</b>                 | function   |
| <b>balancecallbackcodes</b>  | data table | <b>experiments</b>                   | data table |
| <b>boundaries</b>            | table      | <b>extraprimitives</b>               | function   |
| D names                      |            | <b>fatalerror</b>                    | function   |
| D numbers                    |            | <b>fillcodes</b>                     | data table |
| F system                     |            | <b>flagcodes</b>                     | data table |
| <b>box</b>                   | table      | <b>fontidentifier</b>                | function   |
| <b>boxcontinuationcodes</b>  | data table | <b>fontname</b>                      | function   |
| <b>boxoptioncodes</b>        | data table | <b>forcehmode</b>                    | function   |
| <b>boxresources</b>          | table      | <b>forceinputstatefile</b>           | function   |
| F getbox                     |            | <b>forceinputstateline</b>           | function   |
| F getdimensions              |            | <b>fprint</b>                        | function   |
| F save                       |            | <b>frozenparcodes</b>                | data table |
| F use                        |            | <b>get</b>                           | function   |
| <b>breakcodes</b>            | data table | <b>getadjustoptionvalues</b>         | function   |
| <b>buildcodes</b>            | data table | <b>getalignmentcontextvalues</b>     | function   |
| <b>catcode</b>               | table      | <b>getamcode</b>                     | function   |
| <b>cccode</b>                | table      | <b>getappendadjustcontextvalues</b>  | function   |
| <b>charactercontrolcodes</b> | data table | <b>getappendmigratecontextvalues</b> | function   |
| <b>charactertagcodes</b>     | data table | <b>getattribute</b>                  | function   |
| <b>chardef</b>               | function   | <b>getautomigrationvalues</b>        | function   |
| <b>classoptioncodes</b>      | data table | <b>getautoparagraphvalues</b>        | function   |
| <b>codes</b>                 | table      | <b>getbadnessmodevalues</b>          | function   |
| <b>conditionals</b>          | data table | <b>getbalancecallbackvalues</b>      | function   |
| <b>constants</b>             | data table | <b>getbalanceparameterfields</b>     | function   |
| <b>count</b>                 | table      | <b>getbalanceresultfields</b>        | function   |
| <b>cprint</b>                | function   | <b>getbalancestepoptionvalues</b>    | function   |
| <b>ctdcatcodes</b>           | number     | <b>getbox</b>                        | function   |
| <b>ctxcatcodes</b>           | number     | <b>getboxcontinuationvalues</b>      | function   |
| <b>definefont</b>            | function   | <b>getboxdir</b>                     | function   |
| <b>delcode</b>               | table      | <b>getboxoptionvalues</b>            | function   |
| <b>dimen</b>                 | table      | <b>getboxresourcebox</b>             | function   |
| <b>dimensiondef</b>          | function   | <b>getboxresourcedimensions</b>      | function   |
| <b>directioncodes</b>        | data table | <b>getbreakcontextvalues</b>         | function   |

|                                     |          |                                    |          |
|-------------------------------------|----------|------------------------------------|----------|
| <b>getbuildcontextvalues</b>        | function | <b>getinputstatemode</b>           | function |
| <b>getcardinalvalue</b>             | function | <b>getinsertcategoryvalues</b>     | function |
| <b>getcatcode</b>                   | function | <b>getinsertcontent</b>            | function |
| <b>getcccode</b>                    | function | <b>getinsertdepth</b>              | function |
| <b>getcharactercontrolvalues</b>    | function | <b>getinsertdistance</b>           | function |
| <b>getcharactertagvalues</b>        | function | <b>getinsertheight</b>             | function |
| <b>getcount</b>                     | function | <b>getinsertlimit</b>              | function |
| <b>getcurrentmvl</b>                | function | <b>getinsertmaxplaced</b>          | function |
| <b>getdelayedgluelocationvalues</b> | function | <b>getinsertmultiplier</b>         | function |
| <b>getdelayedgluetargetvalues</b>   | function | <b>getinsertoptionvalues</b>       | function |
| <b>getdelcode</b>                   | function | <b>getinsertsplitvalues</b>        | function |
| <b>getdelcodes</b>                  | function | <b>getinsertwidth</b>              | function |
| <b>getdimen</b>                     | function | <b>getintegervalue</b>             | function |
| <b>getdimensionvalue</b>            | function | <b>getinteraction</b>              | function |
| <b>getdirectionvalues</b>           | function | <b>getinteractionmodes</b>         | function |
| <b>getdiscoptionvalues</b>          | function | <b>getiovalues</b>                 | function |
| <b>getdiscpartvalues</b>            | function | <b>getkerneloptionvalues</b>       | function |
| <b>getdoublescriptoptionvalues</b>  | function | <b>getkernoptionvalues</b>         | function |
| <b>getemptyparagraphmodevalues</b>  | function | <b>getlargestusedmark</b>          | function |
| <b>geterrorrecoverymodevalues</b>   | function | <b>getlccode</b>                   | function |
| <b>geterrorvalues</b>               | function | <b>getlinebreakparameterfields</b> | function |
| <b>getfillvalues</b>                | function | <b>getlinebreakresultfields</b>    | function |
| <b>getflagvalues</b>                | function | <b>getlinebreakstatevalues</b>     | function |
| <b>getfloat</b>                     | function | <b>getlinedir</b>                  | function |
| <b>getfontdimension</b>             | function | <b>getlist</b>                     | function |
| <b>getfontofffamily</b>             | function | <b>getlistanchorvalues</b>         | function |
| <b>getfrozenparvalues</b>           | function | <b>getlistfields</b>               | function |
| <b>getglue</b>                      | function | <b>getlistgeometryvalues</b>       | function |
| <b>getglueoptionvalues</b>          | function | <b>getlistsignvalues</b>           | function |
| <b>getglyphdata</b>                 | function | <b>getlocalbox</b>                 | function |
| <b>getglyphdiscvalues</b>           | function | <b>getlocalboxlocations</b>        | function |
| <b>getglyphoptionvalues</b>         | function | <b>getlocallevel</b>               | function |
| <b>getglyphprotectionvalues</b>     | function | <b>getmark</b>                     | function |
| <b>getglyphscales</b>               | function | <b>getmarknames</b>                | function |
| <b>getglyphscript</b>               | function | <b>getmath</b>                     | function |
| <b>getglyphstate</b>                | function | <b>getmathclassoptionvalues</b>    | function |
| <b>getgroupvalues</b>               | function | <b>getmathcode</b>                 | function |
| <b>gethccode</b>                    | function | <b>getmathcodes</b>                | function |
| <b>gethelptext</b>                  | function | <b>getmathcontrolvalues</b>        | function |
| <b>gethmcodes</b>                   | function | <b>getmathdir</b>                  | function |
| <b>gethyphenationvalues</b>         | function | <b>getmathgluevalues</b>           | function |
| <b>getiftypes</b>                   | function | <b>getmathoptionvalues</b>         | function |
| <b>getinputstatefile</b>            | function | <b>getmathparametervalues</b>      | function |
| <b>getinputstateline</b>            | function | <b>getmathscriptordervalue</b>     | function |

|                                    |          |                                     |            |
|------------------------------------|----------|-------------------------------------|------------|
| <b>getmathscriptsmodevalues</b>    | function | <b>getruleoptionvalues</b>          | function   |
| <b>getmathstylenamevalues</b>      | function | <b>getrunstate</b>                  | function   |
| <b>getmathstylevalues</b>          | function | <b>getrunstatevalues</b>            | function   |
| <b>getmathstylevariant</b>         | function | <b>getsfcode</b>                    | function   |
| <b>getmathsurroundvalues</b>       | function | <b>getshapingpenaltiesvalues</b>    | function   |
| <b>getmathvariantpresets</b>       | function | <b>getskip</b>                      | function   |
| <b>getmathvariantvalues</b>        | function | <b>getsnappingvalues</b>            | function   |
| <b>getmeasure</b>                  | function | <b>getspacefactorvalues</b>         | function   |
| <b>getmissingcharactervalues</b>   | function | <b>getspaceskipvalues</b>           | function   |
| <b>getmode</b>                     | function | <b>getspcode</b>                    | function   |
| <b>getmodevalues</b>               | function | <b>getspecialmathclassvalues</b>    | function   |
| <b>getmuglue</b>                   | function | <b>getspecification</b>             | function   |
| <b>getmuskip</b>                   | function | <b>getspecificationoptionvalues</b> | function   |
| <b>getmvloptionvalues</b>          | function | <b>gettextcontrolvalues</b>         | function   |
| <b>getnest</b>                     | function | <b>gettextdir</b>                   | function   |
| <b>getnestfields</b>               | function | <b>gettoks</b>                      | function   |
| <b>getnestlevel</b>                | function | <b>getuccode</b>                    | function   |
| <b>getnoadoptoptionvalues</b>      | function | <b>getuleaderlocationvalues</b>     | function   |
| <b>getnormalizelinevalues</b>      | function | <b>getunitclassvalues</b>           | function   |
| <b>getnormalizeparvalues</b>       | function | <b>getusedmarks</b>                 | function   |
| <b>getnospacesmodevalues</b>       | function | <b>getvsplitcontextvalues</b>       | function   |
| <b>getoutputactive</b>             | function | <b>glue</b>                         | table      |
| <b>getoverloadstate</b>            | function | <b>glueoptioncodes</b>              | data table |
| <b>getpacktypevalues</b>           | function | <b>glyphdisccodes</b>               | data table |
| <b>getpagecontextvalues</b>        | function | <b>glyphoptioncodes</b>             | data table |
| <b>getpagestate</b>                | function | <b>groupcodes</b>                   | data table |
| <b>getpagestatevalues</b>          | function | <b>hashtokens</b>                   | function   |
| <b>getparagraphfillmodevalues</b>  | function | <b>hccode</b>                       | table      |
| <b>getparagraphoptionvalues</b>    | function | <b>hmcode</b>                       | table      |
| <b>getparametermodevalues</b>      | function | <b>hshcatcodes</b>                  | number     |
| <b>getparcontextvalues</b>         | function | <b>hyphenationcodes</b>             | data table |
| <b>getpardataspecifications</b>    | function | <b>ifs</b>                          | data table |
| <b>getpardir</b>                   | function | <b>inimatcodes</b>                  | number     |
| <b>getparmodevalues</b>            | function | <b>insertcategorycodes</b>          | data table |
| <b>getparstate</b>                 | function | <b>insertoptioncodes</b>            | data table |
| <b>getparstatefields</b>           | function | <b>insertsplitcodes</b>             | data table |
| <b>getpartriggervalue</b>          | function | <b>integerdef</b>                   | function   |
| <b>getpenaltyoptionvalues</b>      | function | <b>interactioncodes</b>             | data table |
| <b>getpositvalue</b>               | function | <b>isattribute</b>                  | function   |
| <b>getprepoststatevalues</b>       | function | <b>isbox</b>                        | function   |
| <b>getprimitivelegacies</b>        | function | <b>iscount</b>                      | function   |
| <b>getprimitiveorigins</b>         | function | <b>isdefined</b>                    | function   |
| <b>getprotrusionboundaryvalues</b> | function | <b>isdimen</b>                      | function   |
| <b>getregisterindex</b>            | function | <b>isfloat</b>                      | function   |

|                            |            |                              |
|----------------------------|------------|------------------------------|
| <b>isglue</b>              | function   | N mathlastuserclass          |
| <b>ismuglue</b>            | function   | N maxattributeregisterindex  |
| <b>ismuskip</b>            | function   | N maxboxregisterindex        |
| <b>isprintable</b>         | function   | N maxbytecodeindex           |
| <b>isskip</b>              | function   | N maxcalculatedbadness       |
| <b>istoks</b>              | function   | N maxcardinal                |
| <b>lastnodetype</b>        | function   | N maxcharactercode           |
| <b>lccode</b>              | table      | N maxdatavalue               |
| <b>linebreak</b>           | function   | N maxdimen                   |
| <b>linebreakstatecodes</b> | data table | N maxdimenregisterindex      |
| <b>listanchorcodes</b>     | data table | N maxdimension               |
| <b>listgeometrycodes</b>   | data table | N maxdimensionregisterindex  |
| <b>lists</b>               | table      | N maxendlinecharacter        |
| <b>listsigncodes</b>       | data table | N maxfloatregisterindex      |
| <b>luacatcodes</b>         | number     | N maxfontadjustshrinkfactor  |
| <b>magicconstants</b>      | table      | N maxfontadjuststep          |
| S activecharacternamespace |            | N maxfontadjuststretchfactor |
| N allfitnessvalues         |            | N maxfunctionreference       |
| N assumedmathcontrol       |            | N maxglueregisterindex       |
| N awfulbad                 |            | N maxhalfvalue               |
| N decentcriterion          |            | N maxhalfword                |
| N defaultcatcodetable      |            | N maxinteger                 |
| N defaultcharactercontrol  |            | N maxintegerregisterindex    |
| N defaultdeadcycles        |            | N maxintregisterindex        |
| N defaulteqnogapstep       |            | N maxlimitedscale            |
| N defaultthangafter        |            | N maxmarkindex               |
| N defaultoutputbox         |            | N maxmathclasscode           |
| N defaultpredisplaygap     |            | N maxmathfamilyindex         |
| N defaultrule              |            | N maxmathscalingfactor       |
| N defaultspacefactor       |            | N maxmathstylescale          |
| N defaulttolerance         |            | N maxmuglueregisterindex     |
| N deplorable               |            | N maxmvlindex                |
| N ejectpenalty             |            | N maxnewlinecharacter        |
| N ignoredepth              |            | N maxnofbytecodes            |
| N infinitebad              |            | N maxnofcatcodetables        |
| N infinitepenalty          |            | N maxnoffitnessvalues        |
| N infinity                 |            | N maxnoffonts                |
| N largewidthexcess         |            | N maxnoflanguages            |
| N loosecriterion           |            | N maxnofmarks                |
| N mathallclass             |            | N maxnofmathfamilies         |
| N mathbeginclass           |            | N maxquarterword             |
| N mathdefaultpenalty       |            | N maxscalefactor             |
| N mathendclass             |            | N maxsizeofword              |
| N mathfirstuserclass       |            | N maxspacefactor             |

|                           |            |                                |            |
|---------------------------|------------|--------------------------------|------------|
| N maxtoksregisterindex    |            | <b>mathscriptordercodes</b>    | data table |
| N maxtwinlength           |            | <b>mathscriptsmodecodes</b>    | data table |
| N mincardinal             |            | <b>modelevels</b>              | table      |
| N mindatavalue            |            | N horizontal                   |            |
| N mindimen                |            | N math                         |            |
| N mindimension            |            | N unset                        |            |
| N minhalfword             |            | N vertical                     |            |
| N mininfinity             |            | <b>modes</b>                   | data table |
| N mininteger              |            | <b>mprint</b>                  | function   |
| N minmvlindex             |            | <b>muglue</b>                  | table      |
| N minnofitnessvalues      |            | <b>muskip</b>                  | table      |
| N minquarterword          |            | <b>mvloptioncodes</b>          | data table |
| N minscalefactor          |            | <b>nest</b>                    | table      |
| N minspacefactor          |            | <b>nilcatcodes</b>             | number     |
| N nocatcodetable          |            | <b>noadoptioncodes</b>         | data table |
| N null                    |            | <b>normalizelinecodes</b>      | data table |
| N nullflag                |            | <b>normalizeparcodes</b>       | data table |
| N nullfont                |            | <b>nospacesmodecodes</b>       | data table |
| N onebp                   |            | <b>notcatcodes</b>             | number     |
| N presetrulethickness     |            | <b>number</b>                  | function   |
| N runningrule             |            | <b>paragraphfillmodecodes</b>  | data table |
| N saparthigh              |            | <b>paragraphoptioncodes</b>    | data table |
| N sapartlow               |            | <b>parcontextcodes</b>         | data table |
| N sapartmiddle            |            | <b>partriggercodes</b>         | data table |
| N smallstretchability     |            | <b>penaltyoptioncodes</b>      | data table |
| N specialspacefactor      |            | <b>poplocal</b>                | function   |
| N texeqtbsize             |            | <b>popsavelevel</b>            | function   |
| N texhashprime            |            | <b>posit</b>                   | table      |
| N texhashsize             |            | <b>positdef</b>                | function   |
| N texmemorymode           |            | <b>preparelinebreak</b>        | function   |
| N two                     |            | <b>primitives</b>              | function   |
| N undefinedmathparameter  |            | <b>print</b>                   | function   |
| N unity                   |            | <b>protrusionboundarycodes</b> | data table |
| N unusedattributevalue    |            | <b>prtcacodes</b>              | number     |
| N unusedmathfamily        |            | <b>pushlocal</b>               | function   |
| N unusedmathstyle         |            | <b>pushsavelevel</b>           | function   |
| N unusedscriptvalue       |            | <b>quitlocal</b>               | function   |
| N unusedstatevalue        |            | <b>quittoks</b>                | function   |
| N zeroglue                |            | <b>resetparagraph</b>          | function   |
| <b>mathchardef</b>        | function   | <b>rlncatcodes</b>             | number     |
| <b>mathcode</b>           | table      | <b>romannumeral</b>            | function   |
| <b>mathcontrolcodes</b>   | data table | <b>round</b>                   | function   |
| <b>mathoptioncodes</b>    | data table | <b>ruleoptioncodes</b>         | data table |
| <b>mathparametercodes</b> | data table | <b>runlocal</b>                | function   |

|                            |            |                                 |                     |
|----------------------------|------------|---------------------------------|---------------------|
| <b>runstatecodes</b>       | data table | <b>setmuglue</b>                | function            |
| <b>runstring</b>           | function   | <b>setmuskip</b>                | function            |
| <b>runtoks</b>             | function   | <b>setnest</b>                  | function            |
| <b>saveboxresource</b>     | function   | <b>setoverloadstate</b>         | function            |
| <b>scale</b>               | function   | <b>setpardir</b>                | function            |
| <b>scantoks</b>            | function   | <b>setpositvalue</b>            | function            |
| <b>set</b>                 | function   | <b>setrunstate</b>              | overloaded function |
| <b>setamcode</b>           | function   | <b>setsfcode</b>                | function            |
| <b>setattribute</b>        | function   | <b>setskip</b>                  | function            |
| <b>setbalanceshape</b>     | function   | <b>setspcode</b>                | function            |
| <b>setbox</b>              | function   | <b>settetxdir</b>               | function            |
| <b>setboxdir</b>           | function   | <b>settoks</b>                  | function            |
| <b>setcardinalvalue</b>    | function   | <b>setuccode</b>                | function            |
| <b>setcatcode</b>          | function   | <b>sfcode</b>                   | table               |
| <b>setcccode</b>           | function   | <b>shapingpenaltiescodes</b>    | data table          |
| <b>setconditional</b>      | function   | <b>shiftparshape</b>            | function            |
| <b>setcount</b>            | function   | <b>shipout</b>                  | function            |
| <b>setdelcode</b>          | function   | <b>showcontext</b>              | function            |
| <b>setdimen</b>            | function   | <b>skip</b>                     | table               |
| <b>setdimensionvalue</b>   | function   | <b>snappingcodes</b>            | data table          |
| <b>setfloat</b>            | function   | <b>snapshotpar</b>              | function            |
| <b>setglue</b>             | function   | <b>sp</b>                       | function            |
| <b>setglyphdata</b>        | function   | <b>spacefactorcodes</b>         | data table          |
| <b>setglyphscript</b>      | function   | <b>spaceskipcodes</b>           | data table          |
| <b>setglyphstate</b>       | function   | <b>specialmathclasscodes</b>    | data table          |
| <b>sethcode</b>            | function   | <b>specificationoptioncodes</b> | data table          |
| <b>sethmcode</b>           | function   | <b>splitbox</b>                 | function            |
| <b>setinputstatefile</b>   | function   | <b>splitcodes</b>               | data table          |
| <b>setinputstateline</b>   | function   | <b>sprint</b>                   | function            |
| <b>setinputstatemode</b>   | function   | <b>stringtocodesbitmap</b>      | function            |
| <b>setinsertcontent</b>    | function   | <b>systemmodes</b>              | data table          |
| <b>setinsertdistance</b>   | function   | <b>takebox</b>                  | function            |
| <b>setinsertlimit</b>      | function   | <b>texcatcodes</b>              | number              |
| <b>setinsertmaxplaced</b>  | function   | <b>textcontrolcodes</b>         | data table          |
| <b>setinsertmultiplier</b> | function   | <b>toks</b>                     | table               |
| <b>setintegervalue</b>     | function   | <b>tonumber</b>                 | function            |
| <b>setinteraction</b>      | function   | <b>toscaled</b>                 | function            |
| <b>setlcode</b>            | function   | <b>tpacatcodes</b>              | number              |
| <b>setlinedir</b>          | function   | <b>tpbcacodes</b>               | number              |
| <b>setlist</b>             | function   | <b>tprint</b>                   | function            |
| <b>setlocalbox</b>         | function   | <b>trackedattribute</b>         | function            |
| <b>setmath</b>             | function   | <b>trackers</b>                 | data table          |
| <b>setmathcode</b>         | function   | <b>triggerbuildpage</b>         | function            |
| <b>setmathdir</b>          | function   | <b>txtcatcodes</b>              | number              |

**uccode**  
**uprint**  
**useboxresource**  
**userdiscoptioncodes**

**table**  
function  
function  
data table

**userglyphoptioncodes**  
**vrbcacodes**  
**write**

data table  
number  
**function**

# texconfig (basic tex)

|                          |                     |                      |        |
|--------------------------|---------------------|----------------------|--------|
| <b>bufferize</b>         | table               | <b>languagesize</b>  | table  |
| N size                   |                     | N size               |        |
| N step                   |                     | N step               |        |
| <b>errorlinesize</b>     | table               | <b>marksize</b>      | table  |
| N size                   |                     | N size               |        |
| <b>expandsize</b>        | table               | N step               |        |
| N size                   |                     | <b>nestsize</b>      | table  |
| <b>filesize</b>          | table               | N size               |        |
| N size                   |                     | N step               |        |
| N step                   |                     | <b>nodesize</b>      | table  |
| <b>firstline</b>         | string              | N size               |        |
| <b>fontsize</b>          | table               | N step               |        |
| N size                   |                     | <b>parametersize</b> | table  |
| N step                   |                     | N size               |        |
| <b>formatname</b>        | string              | N step               |        |
| <b>functionsized</b>     | number              | <b>poolsize</b>      | table  |
| <b>halferrorlinesize</b> | table               | N size               |        |
| N size                   |                     | N step               |        |
| <b>hashsize</b>          | table               | <b>propertyssize</b> | number |
| N size                   |                     | <b>savesize</b>      | table  |
| N step                   |                     | N size               |        |
| <b>init</b>              | overloaded function | N step               |        |
| <b>inputsize</b>         | table               | <b>shell_escape</b>  | string |
| N size                   |                     | <b>stringsize</b>    | table  |
| N step                   |                     | N size               |        |
| <b>insertsize</b>        | table               | N step               |        |
| N size                   |                     | <b>tokensize</b>     | table  |
| N step                   |                     | N size               |        |
| <b>kpse_init</b>         | boolean             | N step               |        |

## texio (basic tex)

**closeinput**           function  
**forceendoffile**      function  
**getinputindex**       function  
**getselectorvalues**   function  
**getsourcefilename**   function  
**setlogfile**           function  
**terminal**             function

**write**                 function  
**write\_nl**             function  
**writeln**             function  
**writeselector**       function  
**writeselectorlf**     function  
**writeselectornl**     function

## token (basic tex)

|                         |          |                          |          |
|-------------------------|----------|--------------------------|----------|
| <b>create</b>           | function | <b>getexpandable</b>     | function |
| <b>expand</b>           | function | <b>getexpansion</b>      | function |
| <b>expand_macro</b>     | function | <b>getfields</b>         | function |
| <b>expandmacro</b>      | function | <b>getflags</b>          | function |
| <b>future_expand</b>    | function | <b>getfrozen</b>         | function |
| <b>futureexpand</b>     | function | <b>getfunctionvalues</b> | function |
| <b>get_active</b>       | function | <b>getid</b>             | function |
| <b>get_cmdchrsc</b>     | function | <b>getimmutable</b>      | function |
| <b>get_cmdname</b>      | function | <b>getindex</b>          | function |
| <b>get_command</b>      | function | <b>getinstance</b>       | function |
| <b>get_csname</b>       | function | <b>getinteger</b>        | function |
| <b>get_cstoken</b>      | function | <b>getlength</b>         | function |
| <b>get_dimension</b>    | function | <b>getmacro</b>          | function |
| <b>get_expandable</b>   | function | <b>getmeaning</b>        | function |
| <b>get_fields</b>       | function | <b>getnoaligned</b>      | function |
| <b>get_flags</b>        | function | <b>getparameters</b>     | function |
| <b>get_frozen</b>       | function | <b>getpermanent</b>      | function |
| <b>get_id</b>           | function | <b>getprimitive</b>      | function |
| <b>get_immutable</b>    | function | <b>getprimitives</b>     | function |
| <b>get_index</b>        | function | <b>getprotected</b>      | function |
| <b>get_instance</b>     | function | <b>getrange</b>          | function |
| <b>get_integer</b>      | function | <b>gettok</b>            | function |
| <b>get_macro</b>        | function | <b>gettolerant</b>       | function |
| <b>get_meaning</b>      | function | <b>gobble</b>            | function |
| <b>get_noaligned</b>    | function | <b>gobble_dimension</b>  | function |
| <b>get_parameters</b>   | function | <b>gobble_integer</b>    | function |
| <b>get_permanent</b>    | function | <b>gobbledimension</b>   | function |
| <b>get_primitive</b>    | function | <b>gobbleinteger</b>     | function |
| <b>get_protected</b>    | function | <b>grab</b>              | function |
| <b>get_range</b>        | function | <b>grabstring</b>        | function |
| <b>get_tok</b>          | function | <b>inhibit</b>           | function |
| <b>get_tolerant</b>     | function | <b>is_defined</b>        | function |
| <b>getactive</b>        | function | <b>is_next_char</b>      | function |
| <b>getcmdchrsc</b>      | function | <b>is_token</b>          | function |
| <b>getcmdname</b>       | function | <b>isactivestring</b>    | function |
| <b>getcommand</b>       | function | <b>isdefined</b>         | function |
| <b>getcommandvalues</b> | function | <b>isnextchar</b>        | function |
| <b>getconstant</b>      | function | <b>istoken</b>           | function |
| <b>getcsname</b>        | function | <b>locatemacro</b>       | function |
| <b>getcstoken</b>       | function | <b>new</b>               | function |
| <b>getdimension</b>     | function | <b>peek_next</b>         | function |

|                      |          |                       |          |
|----------------------|----------|-----------------------|----------|
| peek_next_char       | function | scan_tokenlist        | function |
| peek_next_expanded   | function | scan_toks             | function |
| peeknext             | function | scan_value            | function |
| peeknextchar         | function | scan_word             | function |
| peeknextexpanded     | function | scanargument          | function |
| pop_macro            | function | scanbox               | function |
| popmacro             | function | scancardinal          | function |
| push_macro           | function | scanchar              | function |
| pushmacro            | function | scancmdchr            | function |
| put_back             | function | scancmdchrexplanded   | function |
| put_next             | function | scancode              | function |
| putback              | function | scancsname            | function |
| putnext              | function | scancstoken           | function |
| save_lua             | function | scandelimited         | function |
| savelua              | function | scandetokened         | function |
| scan_argument        | function | scandimen             | function |
| scan_box             | function | scandimenargument     | function |
| scan_cardinal        | function | scandimension         | function |
| scan_char            | function | scandimensionargument | function |
| scan_cmdchr          | function | scanfloat             | function |
| scan_cmdchr_expanded | function | scanglue              | function |
| scan_code            | function | scanint               | function |
| scan_csname          | function | scaninteger           | function |
| scan_delimited       | function | scanintegerargument   | function |
| scan_dimen           | function | scankey               | function |
| scan_float           | function | scankeyword           | function |
| scan_glue            | function | scankeywordcs         | function |
| scan_integer         | function | scanletters           | function |
| scan_key             | function | scanluacardinal       | function |
| scan_keyword         | function | scanluainteger        | function |
| scan_keyword_cs      | function | scanluanumber         | function |
| scan_letters         | function | scannext              | function |
| scan_luacardinal     | function | scannextchar          | function |
| scan_luainteger      | function | scannextexpanded      | function |
| scan_luanumber       | function | scanposit             | function |
| scan_next            | function | scanreal              | function |
| scan_next_char       | function | scanscale             | function |
| scan_next_expanded   | function | scanskip              | function |
| scan_real            | function | scanstring            | function |
| scan_scale           | function | scantoken             | function |
| scan_skip            | function | scantokencode         | function |
| scan_string          | function | scantokenlist         | function |
| scan_token           | function | scantokenstring       | function |
| scan_token_code      | function | scantoks              | function |

|                      |          |                           |          |
|----------------------|----------|---------------------------|----------|
| <b>scanvalue</b>     | function | <b>setmacro</b>           | function |
| <b>scanword</b>      | function | <b>setmacrofrommark</b>   | function |
| <b>serialize</b>     | function | <b>setmacrotonothing</b>  | function |
| <b>set_dimension</b> | function | <b>skip_next</b>          | function |
| <b>set_integer</b>   | function | <b>skip_next_expanded</b> | function |
| <b>set_lua</b>       | function | <b>skipnext</b>           | function |
| <b>set_macro</b>     | function | <b>skipnextexpanded</b>   | function |
| <b>setdimension</b>  | function | <b>type</b>               | function |
| <b>setinteger</b>    | function | <b>undefine_macro</b>     | function |
| <b>setlua</b>        | function | <b>undefinemacro</b>      | function |

# tokens (context)

|                   |            |                       |          |
|-------------------|------------|-----------------------|----------|
| <b>accessors</b>  | table      | S todimen             |          |
| F active          |            | S toglue              |          |
| F cmd             |            | S tonumber            |          |
| F cmdchrsc        |            | S tostring            |          |
| F cmdname         |            | <b>create</b>         | function |
| F command         |            | <b>defined</b>        | function |
| F csname          |            | <b>flags</b>          | function |
| F expandable      |            | <b>getinteger</b>     | function |
| F frozen          |            | <b>getters</b>        | table    |
| F index           |            | F box                 |          |
| F name            |            | F count               |          |
| F protected       |            | F ctoken              |          |
| F range           |            | F dimen               |          |
| <b>astable</b>    | function   | F glue                |          |
| <b>bits</b>       | table      | F macro               |          |
| N active          |            | F meaning             |          |
| N alignment       |            | F skip                |          |
| N begingroup      |            | F token               |          |
| N character       |            | <b>gobble</b>         | function |
| N cclose          |            | <b>isactivestring</b> | function |
| N comment         |            | <b>isdefined</b>      | function |
| N endgroup        |            | <b>istoken</b>        | function |
| N endofline       |            | <b>new</b>            | function |
| N escape          |            | <b>pickup</b>         | function |
| N ignore          |            | <b>popmacro</b>       | function |
| N invalid         |            | <b>presets</b>        | table    |
| N letter          |            | <b>pushmacro</b>      | function |
| N mathshift       |            | <b>scanners</b>       | table    |
| N open            |            | F argument            |          |
| N other           |            | F argumentasis        |          |
| N parameter       |            | F array               |          |
| N space           |            | F boolean             |          |
| N subscript       |            | F box                 |          |
| N superscript     |            | F bracketed           |          |
| N whitespace      |            | F bracketedasis       |          |
| <b>cache</b>      | data table | F cardinal            |          |
| <b>commands</b>   | data table | F char                |          |
| <b>compile</b>    | function   | F cmdchr              |          |
| <b>constant</b>   | function   | F cmdchrexplanded     |          |
| <b>converters</b> | table      | F code                |          |
| S toboolean       |            | F conditional         |          |

|                     |                         |          |
|---------------------|-------------------------|----------|
| F count             | F tokencode             |          |
| F csname            | F tokenlist             |          |
| F csnameunchecked   | F tokens                |          |
| F delimited         | F tokenstring           |          |
| F detokened         | F toks                  |          |
| F dimen             | F value                 |          |
| F dimension         | F vbox                  |          |
| F dimensionargument | F verbatim              |          |
| F float             | F vtop                  |          |
| F glue              | F whd                   |          |
| F gluespec          | F word                  |          |
| F gluevalues        | <b>setinteger</b>       | function |
| F hash              | <b>setters</b>          | table    |
| F hbox              | F box                   |          |
| F integer           | F char                  |          |
| F integerargument   | F count                 |          |
| F ischar            | F dimen                 |          |
| F key               | F glue                  |          |
| F keyword           | F lua                   |          |
| F keywordcs         | F macro                 |          |
| F letters           | F skip                  |          |
| F list              | <b>shortcuts</b>        | table    |
| F lua               | N close                 |          |
| F luacardinal       | F inspect               |          |
| F luainteger        | N open                  |          |
| F luanumber         | F report                |          |
| F lxmlid            | F scanargument          |          |
| F next              | F scanargumentasis      |          |
| F nextchar          | F scanarray             |          |
| F nextexpanded      | F scanboolean           |          |
| F number            | F scanbox               |          |
| F optional          | F scanbracketed         |          |
| F peek              | F scanbracketedasis     |          |
| F peekchar          | F scancardinal          |          |
| F peekexpanded      | F scanclose             |          |
| F posit             | F scancode              |          |
| F real              | F scanconditional       |          |
| F scanclose         | F scancsname            |          |
| F scanopen          | F scancsnameunchecked   |          |
| F skip              | F scandelimited         |          |
| F skipexpanded      | F scandetokened         |          |
| F string            | F scandimen             |          |
| F table             | F scandimension         |          |
| F token             | F scandimensionargument |          |

F scanfloat  
F scanglue  
F scangluespec  
F scangluevalues  
F scanhash  
F scanhbox  
F scaninteger  
F scanintegerargument  
F scankeyword  
F scankeywordcs  
F scanletters  
F scanlist  
F scanlua  
F scannumber  
F scanopen  
F scanoptional

F scanposit  
F scanstring  
F scantable  
F scantokenlist  
F scantokenstring  
F scantoks  
F scanvbox  
F scanverbatim  
F scanvtop  
F scanword  
F toboolean  
F todimen  
F tonumber  
F tostring

**values**

**data table**

## tracers (context)

**printerror** function  
**printwarning** function

**showlines** function

## trackers (context)

|                       |            |                 |          |
|-----------------------|------------|-----------------|----------|
| <b>data</b>           | data table | <b>register</b> | function |
| <b>default</b>        | function   | <b>report</b>   | function |
| <b>disable</b>        | function   | <b>reset</b>    | function |
| <b>done</b>           | table      | <b>savehash</b> | function |
| <b>dumphashtofile</b> | function   | <b>show</b>     | function |
| <b>enable</b>         | function   | <b>value</b>    | function |
| <b>list</b>           | function   | <b>values</b>   | function |
| <b>name</b>           | string     |                 |          |

# typesetters (context)

|                       |       |  |                      |
|-----------------------|-------|--|----------------------|
| <b>alignments</b>     | table |  |                      |
| F handler             |       |  | F getglobal          |
| F set                 |       |  | F getmethod          |
| <b>breakpoints</b>    | table |  | F handler            |
| F define              |       |  | F installhandler     |
| F handler             |       |  | F set                |
| D mapping             |       |  | F setcolor           |
| F set                 |       |  | F tomode             |
| F setreplacement      |       |  | <b>firstlines</b>    |
| <b>cases</b>          | table |  | table                |
| F handler             |       |  | F handler            |
| F register            |       |  | F set                |
| F set                 |       |  | <b>fontkerns</b>     |
| <b>characteralign</b> | table |  | table                |
| F handler             |       |  | F handler            |
| F resetcharacteralign |       |  | F set                |
| F setcharacteralign   |       |  | <b>injectors</b>     |
| <b>characters</b>     | table |  | table                |
| F handler             |       |  | F check              |
| F replacensp          |       |  | F mark               |
| F replacenspaces      |       |  | F reset              |
| <b>checkers</b>       | table |  | F set                |
| F handler             |       |  | F show               |
| F reset               |       |  | <b>italics</b>       |
| F set                 |       |  | table                |
| <b>cleaners</b>       | table |  | F enablemath         |
| F handler             |       |  | F enabletext         |
| F set                 |       |  | F handler            |
| <b>compare</b>        | table |  | <b>kerns</b>         |
| F handler             |       |  | table                |
| F reset               |       |  | D factors            |
| F set                 |       |  | F handler            |
| F setpair             |       |  | F keepligature       |
| F setup               |       |  | D mapping            |
| <b>corrections</b>    | table |  | F set                |
| F handler             |       |  | <b>localboxes</b>    |
| <b>digits</b>         | table |  | table                |
| F handler             |       |  | F handler            |
| F set                 |       |  | <b>manipulators</b>  |
| <b>directions</b>     | table |  | table                |
| F getfences           |       |  | F apply              |
|                       |       |  | F applyspecification |
|                       |       |  | F splitspecification |
|                       |       |  | <b>margins</b>       |
|                       |       |  | table                |
|                       |       |  | F finalhandler       |
|                       |       |  | F globalhandler      |
|                       |       |  | F localhandler       |

|                       |          |                            |       |
|-----------------------|----------|----------------------------|-------|
| F save                |          | D mapping                  |       |
| <b>marksuspects</b>   | function | F reset                    |       |
| <b>paragraphs</b>     | table    | F set                      |       |
| F addanchortoline     |          | F setup                    |       |
| F addtoline           |          | <b>stacking</b>            | table |
| F calculatedelta      |          | F getindex                 |       |
| F checkline           |          | F getselection             |       |
| F moveinline          |          | F handler                  |       |
| <b>periodkerns</b>    | table    | <b>swapping</b>            | table |
| D factors             |          | F handler                  |       |
| F handler             |          | <b>synchronize</b>         | table |
| D mapping             |          | F handler                  |       |
| F set                 |          | <b>tighten</b>             | table |
| <b>processors</b>     | table    | F handler                  |       |
| F apply               |          | <b>wrappers</b>            | table |
| F register            |          | <b>xtables</b>             | table |
| F reset               |          | F cleanup                  |       |
| F split               |          | F construct                |       |
| F startapply          |          | F create                   |       |
| F stopapply           |          | F finish_row               |       |
| F stripped            |          | F flush                    |       |
| F toString            |          | F initialize_construct     |       |
| <b>rubies</b>         | table    | F initialize_reflow_height |       |
| F attach              |          | F initialize_reflow_width  |       |
| F check               |          | F next_row                 |       |
| <b>showinvisibles</b> | function | F reflow_height            |       |
| <b>showsuspects</b>   | function | F reflow_width             |       |
| <b>spacings</b>       | table    | F set_construct            |       |
| F define              |          | F set_reflow_height        |       |
| F handler             |          | F set_reflow_width         |       |

## updaters (context)

**apply** function

**register** function

## url (context)

**addscheme** function  
**barepath** function  
**construct** function  
**decode** function  
**encode** function  
**escape** function  
**filename** function

**hashed** function  
**hasscheme** function  
**query** function  
**split** function  
**toquery** function  
**unescape** function  
**unescapeget** function

## utf8 (basic lua)

**char**           function  
**charpattern** string  
**codepoint**     function

**codes**           function  
**len**             function  
**offset**          function

# utilities (context)

## **debugger** table

- F disable
- F enable
- F savestats
- F showstats
- F showtraceback

## **files** table

- F close
- F getposition
- F getsize
- F look
- F open
- F read2dot14
- F readbyte
- F readbytes
- F readbytetable
- F readcardinal
- F readcardinal1
- F readcardinal11e
- F readcardinal2
- F readcardinal21e
- F readcardinal3
- F readcardinal31e
- F readcardinal4
- F readcardinal41e
- F readcardinaltable
- F readchar
- F readcline
- F readcstring
- F readfixed2
- F readfixed4
- F readinteger
- F readinteger1
- F readinteger11e
- F readinteger2
- F readinteger21e
- F readinteger3
- F readinteger31e
- F readinteger4
- F readinteger41e
- F readintegertable

- F readsignedbyte
- F readstring
- F readtag
- F setposition
- F size
- F skip
- F skiplong
- F skipposition
- F skipshort
- F writebyte
- F writecardinal1
- F writecardinal11e
- F writecardinal2
- F writecardinal21e
- F writecardinal3
- F writecardinal31e
- F writecardinal4
- F writecardinal41e
- F writeinteger1
- F writeinteger11e
- F writeinteger2
- F writeinteger21e
- F writeinteger3
- F writeinteger31e
- F writeinteger4
- F writeinteger41e
- F writestring

## **formatters** table

- F formatcolumns
- F list
- F stripzeros

## **ghostscript** table

- F convert
- F statistics

## **graphicmagick** table

- F convert
- F statistics

## **graphicsmagick** table

- F convert
- F statistics

## **json** table

F load  
 F tojson  
 F tolua  
 F tostring  
**lua** table  
 B alwaysstripcode  
 F checkmemory  
 F compile  
 F loadedluacode  
 F loadstring  
 F loadstripped  
 N nofstrippedbytes  
 N nofstrippedchunks  
 F registerfinalizer  
 B stripcode  
 F strippedloadstring  
**packers** table  
 F hashed  
 F new  
 F pack  
 F simplehashed  
 F strip  
 F unpack  
 N version  
**parsers** table  
 F add\_settings\_to\_array  
 F arguments\_to\_table  
 F array\_to\_string  
 F csvsplitter  
 F getparameters  
 F groupdsplitat  
 F hash\_to\_string  
 F iterator  
 F keq\_to\_hash  
 F listitem  
 F make\_settings\_to\_hash\_pattern  
 F mergehashes  
 F options\_to\_array  
 F options\_to\_hash  
 F process\_stripped\_settings  
 F rfc4180splitter  
 F runtime  
 F settings\_to\_array  
 F settings\_to\_array\_obey\_fences

F settings\_to\_array\_with\_repeat  
 F settings\_to\_hash  
 F settings\_to\_hash\_colon\_too  
 F settings\_to\_hash\_strict  
 F settings\_to\_hash\_tolerant  
 F settings\_to\_numbers  
 F settings\_to\_set  
 F simple\_hash\_to\_string  
 F splitmethod  
 F splitthousands  
 F stepper  
 F stripped\_settings\_to\_array  
 F totime  
 F unittotex  
 F unittoxml  
**randomizer** table  
 F get  
 F getnumber  
 F getrepeatable  
 F getrepeatableseed  
 F getseed  
 F newrepeatable  
 F popseed  
 F pushseed  
 F repeatable  
 F reuseseed  
 F setseed  
 F setseedi  
**randomizers** table  
 F poisson  
**sequencers** table  
 F appendaction  
 F appendgroup  
 F compile  
 F disableaction  
 F disablegroup  
 F enableaction  
 F enablegroup  
 D functions  
 F localize  
 F new  
 F nodeprocessor  
 F prependaction  
 F prependgroup

|                  |              |                     |
|------------------|--------------|---------------------|
| F removeaction   |              | F read2dot14        |
| F replaceaction  |              | F readbyte          |
| F setkind        |              | F readbytes         |
| F toString       |              | F readbytetable     |
| <b>setters</b>   | <b>table</b> | F readcardinal      |
| F disable        |              | F readcardinal1     |
| F enable         |              | F readcardinal1le   |
| F initialize     |              | F readcardinal2     |
| F list           |              | F readcardinal2le   |
| F new            |              | F readcardinal3     |
| F register       |              | F readcardinal3le   |
| F report         |              | F readcardinal4     |
| F reset          |              | F readcardinal4le   |
| F show           |              | F readcardinaltable |
| <b>signals</b>   | <b>table</b> | F readchar          |
| S configuration  |              | F readcline         |
| F initialize     |              | F readcstring       |
| F loadstate      |              | F readdouble        |
| F report         |              | F readdoublele      |
| F savestate      |              | F readfixed2        |
| F serialclose    |              | F readfixed4        |
| F serialfast     |              | F readfloat         |
| F serialopen     |              | F readfloatle       |
| S serialprefix   |              | F readfloatle12     |
| F serialsend     |              | F readfloatle6      |
| F serialwrite    |              | F readinteger       |
| N version        |              | F readinteger1      |
| <b>stacker</b>   | <b>table</b> | F readinteger1le    |
| F new            |              | F readinteger2      |
| <b>storage</b>   | <b>table</b> | F readinteger2le    |
| F allocate       |              | F readinteger3      |
| F checked        |              | F readinteger3le    |
| F mark           |              | F readinteger4      |
| F marked         |              | F readinteger4le    |
| F setinitializer |              | F readintegertable  |
| F sparse         |              | F readsignedbyte    |
| <b>streams</b>   | <b>table</b> | F readstring        |
| F close          |              | F setposition       |
| F getposition    |              | F size              |
| F getsize        |              | F skip              |
| F getstring      |              | F skipbytes         |
| F look           |              | F skiplong          |
| F open           |              | F skipshort         |
| F openstring     |              | F tocardinal1       |

|                     |       |                  |       |
|---------------------|-------|------------------|-------|
| F tocardinal1le     |       | F migratetable   |       |
| F tocardinal2       |       | F removevalue    |       |
| F tocardinal2le     |       | F replacevalue   |       |
| F tocardinal3       |       | <b>tar</b>       | table |
| F tocardinal3le     |       | F closearchive   |       |
| F tocardinal4       |       | F openarchive    |       |
| F tocardinal4le     |       | <b>templates</b> | table |
| <b>strings</b>      | table | F load           |       |
| F collapse          |       | F replace        |       |
| F collapsecrlf      |       | F replacer       |       |
| F newcollector      |       | F resolve        |       |
| F newrepeater       |       | <b>zipfiles</b>  | table |
| F striplines        |       | F close          |       |
| F tabtospace        |       | F found          |       |
| <b>tables</b>       | table | F hash           |       |
| F accesstable       |       | F list           |       |
| F definedtable      |       | F open           |       |
| F definetable       |       | F unzip          |       |
| F encapsulate       |       | F unzipdir       |       |
| F insertaftervalue  |       | F zipdir         |       |
| F insertbeforevalue |       |                  |       |

# vector (extra lua)

|                       |          |                   |          |
|-----------------------|----------|-------------------|----------|
| <b>add</b>            | function | F yrotation       |          |
| <b>append</b>         | function | F zrotation       |          |
| <b>average</b>        | function | <b>homogenize</b> | function |
| <b>ceiling</b>        | function | <b>identity</b>   | function |
| <b>checkoverlap</b>   | function | <b>inner</b>      | function |
| <b>collectoverlap</b> | function | <b>insert</b>     | function |
| <b>concat</b>         | function | <b>inverse</b>    | function |
| <b>contour</b>        | table    | <b>ismesh</b>     | function |
| F average             |          | <b>ispoints</b>   | function |
| F bounds              |          | <b>issingular</b> | function |
| F checkoverlap        |          | <b>isvector</b>   | function |
| F collectoverlap      |          | <b>iszero</b>     | function |
| F getarea             |          | <b>mesh</b>       | table    |
| F getmesh             |          | F get             |          |
| F makemesh            |          | F getdimensions   |          |
| F overlapping         |          | F gettypevalues   |          |
| F show                |          | F ismesh          |          |
| F sort                |          | F new             |          |
| <b>copy</b>           | function | F set             |          |
| <b>crossproduct</b>   | function | F tostring        |          |
| <b>delete</b>         | function | F totable         |          |
| <b>determinant</b>    | function | F type            |          |
| <b>div</b>            | function | <b>meshname</b>   | function |
| <b>equal</b>          | function | <b>mul</b>        | function |
| <b>exchange</b>       | function | <b>negate</b>     | function |
| <b>floor</b>          | function | <b>new</b>        | function |
| <b>get</b>            | function | <b>normalize</b>  | function |
| <b>getdimensions</b>  | function | <b>onecolumn</b>  | function |
| <b>getepsilon</b>     | function | <b>onerow</b>     | function |
| <b>getmemory</b>      | function | <b>point</b>      | table    |
| <b>getmesh</b>        | function | F add             |          |
| <b>getrc</b>          | function | F copy            |          |
| <b>getrow</b>         | function | F cross           |          |
| <b>getsize</b>        | function | F crossproduct    |          |
| <b>getstacking</b>    | function | F dist            |          |
| <b>gettype</b>        | function | F distance        |          |
| <b>helpers</b>        | table    | F div             |          |
| F points              |          | F dot             |          |
| F transform           |          | F dotproduct      |          |
| F xrotation           |          | F equal           |          |
| F xyzscale            |          | F get             |          |

F ispoint

F iszero

F len

F length

F mul

F neg

F negate

F new

F norm

F normalize

F perp

F perpendicular

F set

F sub

F tostring

F totable

F type

**points**            **table**

F get

F getbounds

F getnormal

F getxyz

F ispoints

F new

F set

F setnormal

F setxyz

F tostring

F totable

F type

**product**            **function**

**remove**            **function**

**replace**            **function**

**round**              **function**

**rowechelon**        **function**

**set**                  **function**

**setepsilon**        **function**

**setnext**            **function**

**setrc**               **function**

**setstacking**      **function**

**slice**               **function**

**sort**                **function**

**sub**                  **function**

**swap**                **function**

**tostring**           **function**

**totable**            **function**

**transpose**         **function**

**triangulate**      **function**

**truncate**          **function**

**type**                **function**

## visualizers (context)

|                              |            |                        |            |
|------------------------------|------------|------------------------|------------|
| <b>escapepatterns</b>        | data table | <b>signal</b>          | string     |
| <b>getspecification</b>      | function   | <b>signalpattern</b>   | userdata   |
| <b>getvisualizer</b>         | function   | <b>specifications</b>  | data table |
| <b>load</b>                  | function   | <b>visualize</b>       | function   |
| <b>makenested</b>            | function   | <b>visualizebuffer</b> | function   |
| <b>makepattern</b>           | function   | <b>visualizefile</b>   | function   |
| <b>newgrammar</b>            | function   | <b>visualizestring</b> | function   |
| <b>newhandler</b>            | function   | <b>write</b>           | function   |
| <b>parsedxml</b>             | function   | <b>writeargument</b>   | function   |
| <b>pattern</b>               | function   | <b>writedefault</b>    | function   |
| <b>register</b>              | function   | <b>writeemptyline</b>  | function   |
| <b>registerescapecommand</b> | function   | <b>writenewline</b>    | function   |
| <b>registerescapepline</b>   | function   | <b>writespace</b>      | function   |
| <b>registerescapepattern</b> | function   |                        |            |

## xcomplex (extra lua)

|                   |          |                   |          |
|-------------------|----------|-------------------|----------|
| <b>I</b>          | function | <b>erf</b>        | function |
| <b>__add</b>      | function | <b>erfc</b>       | function |
| <b>__div</b>      | function | <b>erfcx</b>      | function |
| <b>__eq</b>       | function | <b>erfi</b>       | function |
| <b>__mul</b>      | function | <b>exp</b>        | function |
| <b>__name</b>     | string   | <b>i</b>          | function |
| <b>__pow</b>      | function | <b>imag</b>       | function |
| <b>__sub</b>      | function | <b>log</b>        | function |
| <b>__tostring</b> | function | <b>new</b>        | function |
| <b>__unm</b>      | function | <b>pow</b>        | function |
| <b>abs</b>        | function | <b>proj</b>       | function |
| <b>acos</b>       | function | <b>real</b>       | function |
| <b>acosh</b>      | function | <b>sin</b>        | function |
| <b>arg</b>        | function | <b>sinh</b>       | function |
| <b>asin</b>       | function | <b>sqrt</b>       | function |
| <b>asinh</b>      | function | <b>tan</b>        | function |
| <b>atan</b>       | function | <b>tanh</b>       | function |
| <b>atanh</b>      | function | <b>topair</b>     | function |
| <b>conj</b>       | function | <b>tostring</b>   | function |
| <b>cos</b>        | function | <b>totable</b>    | function |
| <b>cosh</b>       | function | <b>voigt</b>      | function |
| <b>dawson</b>     | function | <b>voigt_hwhm</b> | function |

## xdecimal (extra lua)

|                   |          |                     |          |
|-------------------|----------|---------------------|----------|
| <b>__add</b>      | function | <b>bxor</b>         | function |
| <b>__band</b>     | function | <b>conj</b>         | function |
| <b>__bor</b>      | function | <b>copy</b>         | function |
| <b>__bxor</b>     | function | <b>exp</b>          | function |
| <b>__div</b>      | function | <b>getprecision</b> | function |
| <b>__eq</b>       | function | <b>ln</b>           | function |
| <b>__idiv</b>     | function | <b>log</b>          | function |
| <b>__le</b>       | function | <b>max</b>          | function |
| <b>__lt</b>       | function | <b>min</b>          | function |
| <b>__mod</b>      | function | <b>minus</b>        | function |
| <b>__mul</b>      | function | <b>new</b>          | function |
| <b>__name</b>     | string   | <b>plus</b>         | function |
| <b>__pow</b>      | function | <b>pow</b>          | function |
| <b>__shl</b>      | function | <b>rotate</b>       | function |
| <b>__shr</b>      | function | <b>setprecision</b> | function |
| <b>__sub</b>      | function | <b>shift</b>        | function |
| <b>__tostring</b> | function | <b>sqrt</b>         | function |
| <b>__unm</b>      | function | <b>toengstring</b>  | function |
| <b>abs</b>        | function | <b>tonumber</b>     | function |
| <b>band</b>       | function | <b>tostring</b>     | function |
| <b>bor</b>        | function | <b>trim</b>         | function |

## xinterval (context)

|                   |          |                     |          |
|-------------------|----------|---------------------|----------|
| <b>__add</b>      | function | <b>greater</b>      | function |
| <b>__div</b>      | function | <b>greaterequal</b> | function |
| <b>__eq</b>       | function | <b>hull</b>         | function |
| <b>__le</b>       | function | <b>intersect</b>    | function |
| <b>__lt</b>       | function | <b>less</b>         | function |
| <b>__mod</b>      | function | <b>lessequal</b>    | function |
| <b>__mul</b>      | function | <b>log</b>          | function |
| <b>__name</b>     | string   | <b>log10</b>        | function |
| <b>__pow</b>      | function | <b>log1p</b>        | function |
| <b>__sub</b>      | function | <b>log2</b>         | function |
| <b>__tostring</b> | function | <b>mid</b>          | function |
| <b>__unm</b>      | function | <b>mod</b>          | function |
| <b>abs</b>        | function | <b>new</b>          | function |
| <b>acos</b>       | function | <b>neweps</b>       | function |
| <b>acosh</b>      | function | <b>pow</b>          | function |
| <b>asin</b>       | function | <b>seteq</b>        | function |
| <b>asinh</b>      | function | <b>setge</b>        | function |
| <b>asstring</b>   | function | <b>setgt</b>        | function |
| <b>atan</b>       | function | <b>setle</b>        | function |
| <b>atanh</b>      | function | <b>setlt</b>        | function |
| <b>cos</b>        | function | <b>sin</b>          | function |
| <b>cosh</b>       | function | <b>sinh</b>         | function |
| <b>diameter</b>   | function | <b>sqr</b>          | function |
| <b>equal</b>      | function | <b>sqrt</b>         | function |
| <b>erf</b>        | function | <b>tan</b>          | function |
| <b>erfc</b>       | function | <b>tanh</b>         | function |
| <b>exp</b>        | function | <b>topair</b>       | function |
| <b>exp10</b>      | function | <b>tostring</b>     | function |
| <b>exp2</b>       | function | <b>totable</b>      | function |
| <b>expm1</b>      | function | <b>usedendian</b>   | function |
| <b>greater</b>    | function | <b>within</b>       | function |

## xmath (extra lua)

|                     |          |                  |          |
|---------------------|----------|------------------|----------|
| <b>acos</b>         | function | <b>isnormal</b>  | function |
| <b>acosh</b>        | function | <b>j0</b>        | function |
| <b>asin</b>         | function | <b>j1</b>        | function |
| <b>asinh</b>        | function | <b>jn</b>        | function |
| <b>atan</b>         | function | <b>ldexp</b>     | function |
| <b>atan2</b>        | function | <b>lgamma</b>    | function |
| <b>atanh</b>        | function | <b>log</b>       | function |
| <b>cbrt</b>         | function | <b>log10</b>     | function |
| <b>ceil</b>         | function | <b>log1p</b>     | function |
| <b>copysign</b>     | function | <b>log2</b>      | function |
| <b>cos</b>          | function | <b>logb</b>      | function |
| <b>cosh</b>         | function | <b>modf</b>      | function |
| <b>crossproduct</b> | function | <b>nan</b>       | number   |
| <b>deg</b>          | function | <b>nearbyint</b> | function |
| <b>dotproduct</b>   | function | <b>nextafter</b> | function |
| <b>erf</b>          | function | <b>normalize</b> | function |
| <b>erfc</b>         | function | <b>pi</b>        | number   |
| <b>exp</b>          | function | <b>pow</b>       | function |
| <b>exp2</b>         | function | <b>rad</b>       | function |
| <b>expm1</b>        | function | <b>remainder</b> | function |
| <b>fabs</b>         | function | <b>remquo</b>    | function |
| <b>fdim</b>         | function | <b>round</b>     | function |
| <b>floor</b>        | function | <b>scalbn</b>    | function |
| <b>fma</b>          | function | <b>sin</b>       | function |
| <b>fmax</b>         | function | <b>sinh</b>      | function |
| <b>fmin</b>         | function | <b>sqrt</b>      | function |
| <b>fmod</b>         | function | <b>tan</b>       | function |
| <b>frexp</b>        | function | <b>tanh</b>      | function |
| <b>gamma</b>        | function | <b>tgamma</b>    | function |
| <b>hypot</b>        | function | <b>trunc</b>     | function |
| <b>inf</b>          | number   | <b>y0</b>        | function |
| <b>isfinite</b>     | function | <b>y1</b>        | function |
| <b>isinf</b>        | function | <b>yn</b>        | function |
| <b>isnan</b>        | function |                  |          |

# xml (context)

|                           |          |                        |            |
|---------------------------|----------|------------------------|------------|
| <b>addentitiesdoctype</b> | function | F family               |            |
| <b>addspecialcode</b>     | function | F fontspecification    |            |
| <b>after</b>              | function | F mappedstylevalue     |            |
| <b>all</b>                | function | F padding              |            |
| <b>applylpath</b>         | function | F size                 |            |
| <b>applyselector</b>      | function | F style                |            |
| <b>assign</b>             | function | F stylevalue           |            |
| <b>attribute</b>          | function | F todimension          |            |
| <b>badinclusions</b>      | function | F variant              |            |
| <b>before</b>             | function | F weight               |            |
| <b>body</b>               | function | <b>defaulthandlers</b> | table      |
| <b>builtinentities</b>    | table    | D file                 |            |
| B amp                     |          | D parsedxml            |            |
| B apos                    |          | D string               |            |
| B gt                      |          | D tex                  |            |
| B lt                      |          | D texline              |            |
| B quot                    |          | D texspace             |            |
| D verbose                 |          |                        |            |
| <b>CDATA</b>              | function | <b>defaultprotocol</b> | string     |
| <b>CDATATOTEXT</b>        | function | <b>delete</b>          | function   |
| <b>checkbom</b>           | function | <b>delete_element</b>  | function   |
| <b>checkedempty</b>       | function | <b>despecialized</b>   | function   |
| <b>checkerror</b>         | function | <b>each</b>            | function   |
| <b>checknamespace</b>     | function | <b>each_element</b>    | function   |
| <b>checkns</b>            | function | <b>elements</b>        | function   |
| <b>cleansed</b>           | function | <b>elementtocdata</b>  | function   |
| <b>collect</b>            | function | <b>empty</b>           | function   |
| <b>collect_elements</b>   | function | <b>entities</b>        | data table |
| <b>collect_tags</b>       | function | <b>erase</b>           | function   |
| <b>collect_texts</b>      | function | <b>errorhandler</b>    | function   |
| <b>collected</b>          | function | <b>escaped</b>         | function   |
| <b>collecttexts</b>       | function | <b>expand</b>          | function   |
| <b>compactelement</b>     | function | <b>expressions</b>     | table      |
| <b>content</b>            | function | F attribute            |            |
| <b>convert</b>            | function | F boolean              |            |
| <b>copy</b>               | function | F child                |            |
| <b>count</b>              | function | F contains             |            |
| <b>cprint</b>             | function | F count                |            |
| <b>css</b>                | table    | F error                |            |
| F applyselector           |          | F find                 |            |
| F colorspecification      |          | F hasclass             |            |
| F dimension               |          |                        |            |

|                              |          |                           |            |
|------------------------------|----------|---------------------------|------------|
| F idstring                   |          | <b>insertcomment</b>      | function   |
| F lower                      |          | <b>inspect</b>            | function   |
| F name                       |          | <b>is_valid</b>           | function   |
| F number                     |          | <b>kind</b>               | function   |
| F oneof                      |          | <b>last</b>               | function   |
| F print                      |          | <b>lastmatch</b>          | function   |
| F quit                       |          | <b>load</b>               | function   |
| F tag                        |          | <b>lpath</b>              | function   |
| F text                       |          | <b>lpathcached</b>        | function   |
| F undefined                  |          | <b>lpathcalls</b>         | function   |
| F upper                      |          | <b>lshow</b>              | function   |
| <b>fillin</b>                | function | <b>makestandalone</b>     | function   |
| <b>filter</b>                | function | <b>match</b>              | function   |
| <b>finalizers</b>            | table    | <b>mml</b>                | table      |
| F paragraphs                 |          | F stripped                |            |
| <b>first</b>                 | function | F verbose                 |            |
| <b>found</b>                 | function | <b>name</b>               | function   |
| <b>functions</b>             | table    | <b>newhandlers</b>        | function   |
| F classes                    |          | <b>nodesettostring</b>    | function   |
| F hasclass                   |          | <b>originalload</b>       | function   |
| <b>getbuffer</b>             | function | <b>package</b>            | function   |
| <b>gethandlers</b>           | function | <b>parent</b>             | function   |
| <b>gethandlersfunction</b>   | function | <b>parsedentitylpeg</b>   | userdata   |
| <b>helpers</b>               | table    | <b>pihandlers</b>         | table      |
| F recursetext                |          | F injector                |            |
| <b>include</b>               | function | F tex                     |            |
| <b>inclusion</b>             | function | <b>placeholders</b>       | table      |
| <b>inclusions</b>            | function | F unknown_any_entity      |            |
| <b>index</b>                 | function | F unknown_dec_entity      |            |
| <b>inheritattributes</b>     | function | F unknown_hex_entity      |            |
| <b>inheritedconvert</b>      | function | <b>popmatch</b>           | function   |
| <b>inject</b>                | function | <b>position</b>           | function   |
| <b>inject_element</b>        | function | <b>privatecodes</b>       | data table |
| <b>inject_element_after</b>  | function | <b>privatetoken</b>       | function   |
| <b>inject_element_before</b> | function | <b>process</b>            | function   |
| <b>injectafter</b>           | function | <b>process_attributes</b> | function   |
| <b>injectbefore</b>          | function | <b>process_elements</b>   | function   |
| <b>insert</b>                | function | <b>processattributes</b>  | function   |
| <b>insert_element</b>        | function | <b>profiled</b>           | table      |
| <b>insert_element_after</b>  | function | <b>pure</b>               | function   |
| <b>insert_element_before</b> | function | <b>pushmatch</b>          | function   |
| <b>insertafter</b>           | function | <b>raw</b>                | function   |
| <b>insertbefore</b>          | function | <b>registerentity</b>     | function   |
| <b>insertcdata</b>           | function | <b>registerns</b>         | function   |

|                            |            |                            |          |
|----------------------------|------------|----------------------------|----------|
| <b>reindex</b>             | function   | <b>specialhandler</b>      | table    |
| <b>remap_name</b>          | function   | <b>sprint</b>              | function |
| <b>remap_namespace</b>     | function   | <b>string</b>              | function |
| <b>remap_tag</b>           | function   | <b>strip</b>               | function |
| <b>remapname</b>           | function   | <b>strip_whitespace</b>    | function |
| <b>remapnamespace</b>      | function   | <b>stripelement</b>        | function |
| <b>remaptag</b>            | function   | <b>stripleadingspaces</b>  | function |
| <b>rename</b>              | function   | <b>table</b>               | function |
| <b>renamespace</b>         | function   | <b>text</b>                | function |
| <b>reparsedentitylpeg</b>  | userdata   | <b>textonly</b>            | function |
| <b>replace</b>             | function   | <b>texttocdata</b>         | function |
| <b>replace_element</b>     | function   | <b>tocdata</b>             | function |
| <b>resetinjectors</b>      | function   | <b>toelement</b>           | function |
| <b>resolvens</b>           | function   | <b>tostring</b>            | function |
| <b>root</b>                | function   | <b>totable</b>             | function |
| <b>save</b>                | function   | <b>toxml</b>               | function |
| <b>selection</b>           | function   | <b>tprint</b>              | function |
| <b>separate</b>            | function   | <b>traverse</b>            | function |
| <b>serialize</b>           | function   | <b>unescaped</b>           | function |
| <b>serializetotext</b>     | function   | <b>unescapedentitylpeg</b> | userdata |
| <b>setcdata</b>            | function   | <b>unprivatized</b>        | function |
| <b>setcomment</b>          | function   | <b>unspecialized</b>       | function |
| <b>sethandlersfunction</b> | function   | <b>wipe</b>                | function |
| <b>setinjectors</b>        | function   | <b>withelement</b>         | function |
| <b>setproperty</b>         | function   | <b>withelements</b>        | function |
| <b>settings</b>            | function   | <b>wrap</b>                | function |
| <b>specialcodes</b>        | data table | <b>xmlns</b>               | table    |

## xzip (extra lua)

**adler32**           function  
**compress**        function  
**compresssize**   function

**crc32**            function  
**decompress**      function  
**decompresssize** function

## zbuffer (context)

|                   |          |                       |          |
|-------------------|----------|-----------------------|----------|
| <b>bounds</b>     | function | <b>setcolor</b>       | function |
| <b>composite</b>  | function | <b>setdepth</b>       | function |
| <b>crop</b>       | function | <b>setnormal</b>      | function |
| <b>edgepoint</b>  | function | <b>setopacity</b>     | function |
| <b>flatten</b>    | function | <b>setup</b>          | function |
| <b>get</b>        | function | <b>smoothen</b>       | function |
| <b>getcolor</b>   | function | <b>stipple_0</b>      | function |
| <b>getdepth</b>   | function | <b>stipple_1</b>      | function |
| <b>getnormal</b>  | function | <b>stipple_2</b>      | function |
| <b>getopacity</b> | function | <b>stipple_3</b>      | function |
| <b>getsize</b>    | function | <b>stipple_4</b>      | function |
| <b>implicit</b>   | function | <b>stipple_setup</b>  | function |
| <b>iszbuffer</b>  | function | <b>tobytes</b>        | function |
| <b>meshmesh</b>   | function | <b>tostring</b>       | function |
| <b>new</b>        | function | <b>totable</b>        | function |
| <b>points</b>     | function | <b>transform</b>      | function |
| <b>process</b>    | function | <b>trianglebounds</b> | function |
| <b>project</b>    | function | <b>triangles</b>      | function |
| <b>resolve</b>    | function | <b>type</b>           | function |
| <b>set</b>        | function |                       |          |

## zip (context)

**archives**

table

**closearchive**

function

**openarchive**

function

**registeredfiles**

table

## zlib (context)

**adler32**           function  
**compress**         function  
**compresssize**    function

**crc32**            function  
**decompress**      function  
**decompresssize** function