

# R package **rrtable**

Reproducible Research with a Table of R codes

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```
require(moonBook)
require(ztable)
require(rrtable)
require(ggplot2)
options(ztable.type='latex')
```

## Introduction

If you are a data scientist or researcher, you will certainly be interested in reproducible research. R package **rrtable** makes it possible to make reports with HTML, LaTeX, MS word or MS Powerpoint formats from a table of R codes.

## Package Installation

You can install R package **rrtable** with the following command.

```
if(!require(devtools)){ install.packages("devtools") }
devtools::install_github("cardiomoon/rrtable")
```

## Package Loading

You can load the **rrtable** package with the following R command.

```
require(rrtable)
```

## Sample Data

Sample data **sampleData3** is included in **rrtable** package. You can see the **sampleData3** by following R command.

```
str(sampleData3)
```

```
'data.frame':  15 obs. of  5 variables:
 $ type  : chr  "title" "subtitle" "author" "text" ...
 $ title : chr  "" "" "" "Introduction" ...
 $ text  : chr  "R package `rrtable`" "Reproducible Research with a Table of R codes" "Keon-Woong Moon"
 $ code  : chr  "" "" "" "" ...
 $ option: chr  "" "" "" "" ...
```

## Paragraph

You can make a paragraph with this data

```
ztable2( sampleData3 )
```

type	title		text	code	option
title			R package 'rrtable'		
subtitle			Reproducible Research with a Table of R codes		
author			Keon-Woong Moon		
text	Introduction		If you are a data scientist or researcher, you will certainly be interested in reproducible research. R package 'rrtable' makes it possible to make reports with HTML, LaTeX, MS word or MS Power-point formats from a table of R codes.		
header2	Package	In-	You can install R package 'rrtable' with the following command.	if(!require(devtools)){ in-	echo=TRUE, eval=FALSE
	stallation			install.packages("devtools") }	
header2	Package		You can load the 'rrtable' package with the following R command.	devtools::install_github("cardiomoon/rrtable")	echo=TRUE
	Loading			require(rrtable)	
header2	Sample	Data	Sample data sampleData3 is included in rrtable package. You can see the sampleData3 by follwoing R command.	str(sampleData3)	echo=TRUE, eval=TRUE
Data	Paragraph		You can make a paragraph with this data	sampleData3	landscape=TRUE
mytable	mytable	ob-	You can add mytable object with the following R code.	mytable(Dx~,data=acs)	
plot	Plot	ject		plot(iris)	
ggplot	ggplot		You can insert a ggplot into a document	ggplot(iris,aes(x=Sepal.Length,y=Sepal.Width,color=Species))	
Rcode	R code		You can insert the result of R code. For example, you can insert the result of regression analysis.	geom_point() fit=lm(mpg~wt*hp,data=mtcars) summary(fit)	
2ggplots	Two ggplots		You can insert two parallel ggplots with the following code.	ggplot(iris,aes(Sepal.Length,Sepal.Width))+geom_point() ggplot(iris,aes(Sepal.Length,Sepal.Width,colour=Species))+geom_point()+guides(colour=FALSE)	
2plots	Two plots		You can insert two parallel plots with the following code.	hist(rnorm(1000)) plot(1:10)	
header2	HTML		You can get report with HTML format(this file) by following R command.	data2HTML(sampleData3)	echo=TRUE, eval=FALSE
	Report				

## mytable object

You can add mytable object with the following R code.

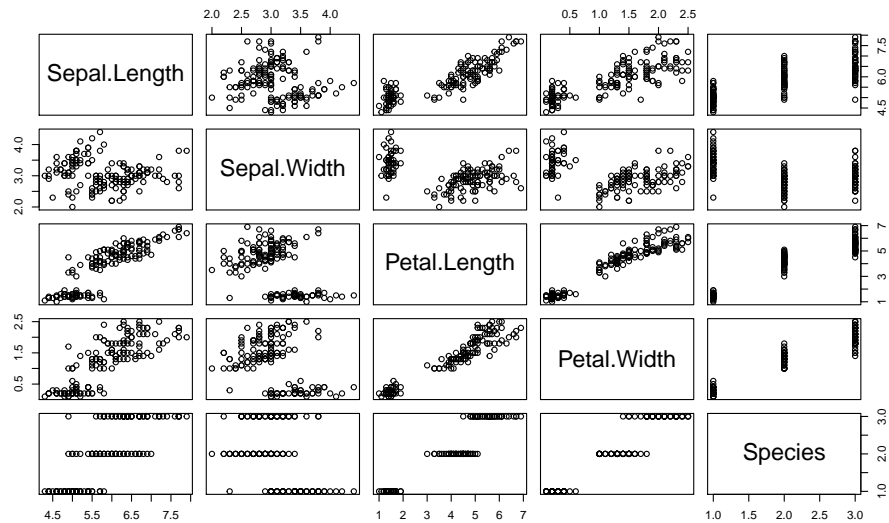
```
result= mytable(Dx~.,data=acs)
print(ztable(result,longtable=TRUE),type='latex')
```

	NSTEMI (N=153)	STEMI (N=304)	Unstable Angina (N=400)	P
age	64.3 ± 12.3	62.1 ± 12.1	63.8 ± 11.0	0.073
sex				0.012
Female	50 (32.7%)	84 (27.6%)	153 (38.2%)	
Male	103 (67.3%)	220 (72.4%)	247 (61.8%)	
cardiogenicShock				0.000
No	149 (97.4%)	256 (84.2%)	400 (100.0%)	
Yes	4 ( 2.6%)	48 (15.8%)	0 ( 0.0%)	
entry				0.001
Femoral	58 (37.9%)	133 (43.8%)	121 (30.2%)	
Radial	95 (62.1%)	171 (56.2%)	279 (69.8%)	
EF	55.0 ± 9.3	52.4 ± 9.5	59.2 ± 8.7	0.000
height	163.3 ± 8.2	165.1 ± 8.2	161.7 ± 9.7	0.000
weight	64.3 ± 10.2	65.7 ± 11.6	64.5 ± 11.6	0.361
BMI	24.1 ± 3.2	24.0 ± 3.3	24.6 ± 3.4	0.064
obesity				0.186
No	106 (69.3%)	209 (68.8%)	252 (63.0%)	
Yes	47 (30.7%)	95 (31.2%)	148 (37.0%)	
TC	193.7 ± 53.6	183.2 ± 43.4	183.5 ± 48.3	0.057
LDLC	126.1 ± 44.7	116.7 ± 39.5	112.9 ± 40.4	0.004
HDLC	38.9 ± 11.9	38.5 ± 11.0	37.8 ± 10.9	0.501
TG	130.1 ± 88.5	106.5 ± 72.0	137.4 ± 101.6	0.000
DM				0.209
No	96 (62.7%)	208 (68.4%)	249 (62.2%)	
Yes	57 (37.3%)	96 (31.6%)	151 (37.8%)	
HBP				0.002
No	62 (40.5%)	150 (49.3%)	144 (36.0%)	
Yes	91 (59.5%)	154 (50.7%)	256 (64.0%)	
smoking				0.000
Ex-smoker	42 (27.5%)	66 (21.7%)	96 (24.0%)	
Never	50 (32.7%)	97 (31.9%)	185 (46.2%)	
Smoker	61 (39.9%)	141 (46.4%)	119 (29.8%)	

## Plot

You can insert a plot into your document.

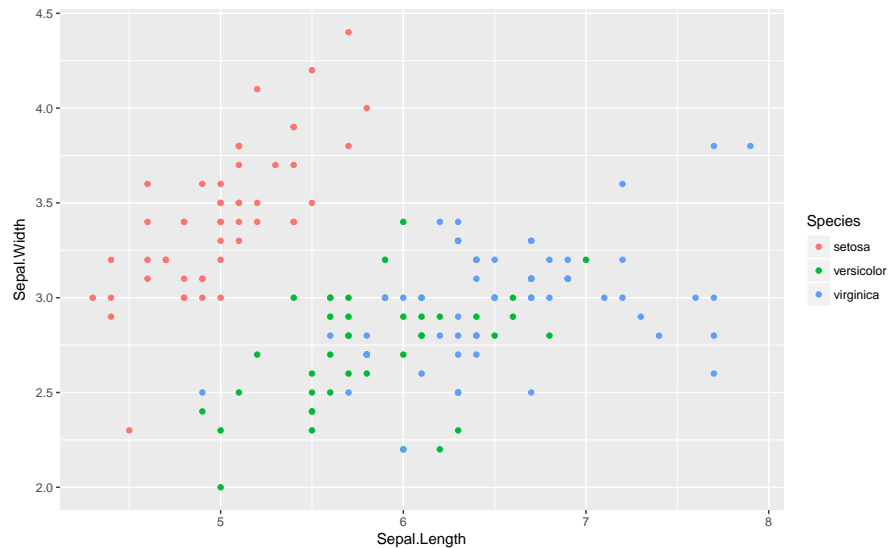
```
plot(iris)
```



## ggplot

You can insert a ggplot into a document

```
ggplot(iris,aes(x=Sepal.Length,y=Sepal.Width,color=Species))+ geom_point()
```



## R code

You can insert the result of R code. For example, you can insert the result of regression analysis.

```
fit=lm(mpg~wt*hp,data=mtcars)
summary(fit)
```

Call:

```
lm(formula = mpg ~ wt * hp, data = mtcars)
```

Residuals:

Min	1Q	Median	3Q	Max
-1.5	-0.5	0.0	0.5	1.5

-3.0632 -1.6491 -0.7362 1.4211 4.5513

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	49.80842	3.60516	13.816	5.01e-14 ***
wt	-8.21662	1.26971	-6.471	5.20e-07 ***
hp	-0.12010	0.02470	-4.863	4.04e-05 ***
wt:hp	0.02785	0.00742	3.753	0.000811 ***

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.153 on 28 degrees of freedom

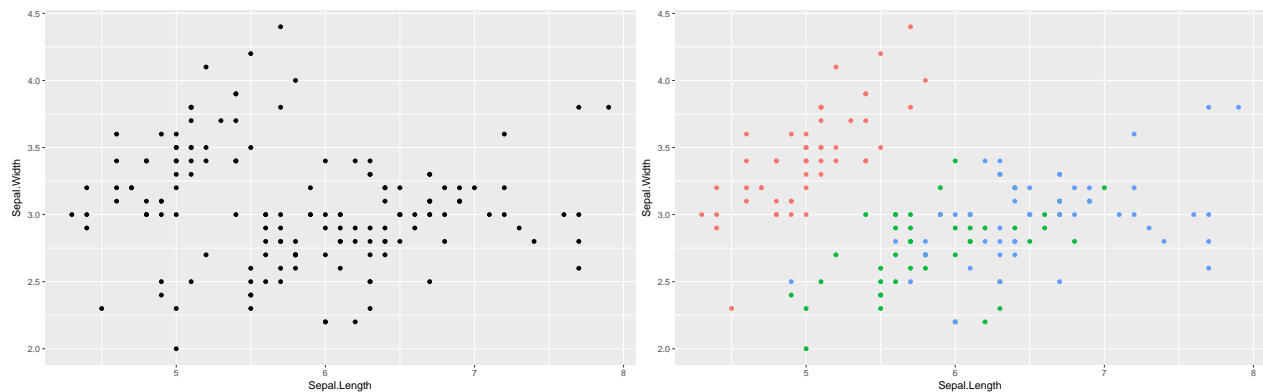
Multiple R-squared: 0.8848, Adjusted R-squared: 0.8724

F-statistic: 71.66 on 3 and 28 DF, p-value: 2.981e-13

## Two ggplots

You can insert two parallel ggplots with the following code.

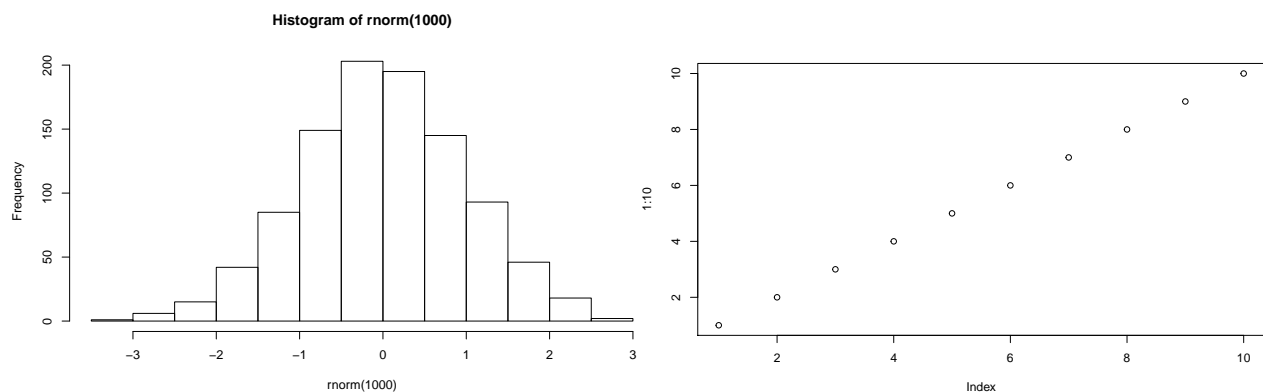
```
ggplot(iris,aes(Sepal.Length,Sepal.Width))+geom_point()  
ggplot(iris,aes(Sepal.Length,Sepal.Width,colour=Species))+ geom_point()+guides(colour=FALSE)
```



## Two plots

You can insert two parallel plots with the following code.

```
hist(rnorm(1000))  
plot(1:10)
```



## HTML Report

You can get report with HTML format(this file) by following R command.

```
data2HTML(sampleData3)
```