R package `rrtable`

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```r
require(moonBook)
require(xtable)
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.

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

Package Loading

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

```r
require(rrtable)
```

Sample Data

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

```r
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,sidewaystable=TRUE)
```

type	title	text
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 r
header2	Package Installation	You can install R package 'rrtable' with the following command.
header2	Package Loading	You can load the 'rrtable' package with the following R command.
header2	Sample Data	Sample data sampleData3 is included in rrtable package. You can see the sampleData3 l
table	Paragraph	You can make a paragraph with this data
mytable	mytable object	You can add mytable object with the following R code.
plot	Plot	You can insert a plot into your document.
ggplot	ggplot	You can insert a ggplot into a document
Rcode	R code	You can insert the result of R code. For example, you can insert the result of regression
2ggplots	Two ggplots	You can insert two parallel ggplots with the following code.
2plots	Two plots	You can insert two parallel plots with the following code.
header2	HTML Report	You can get report with HTML format(this file) by following R command.

mytable object

You can add mytable object with the following R code.

```r
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

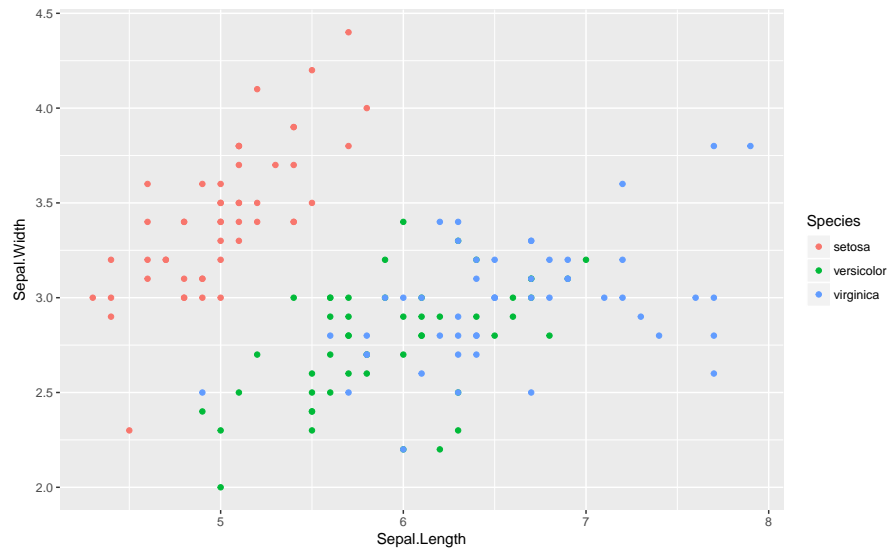You can insert a plot into your document.

```r
plot(iris)
```
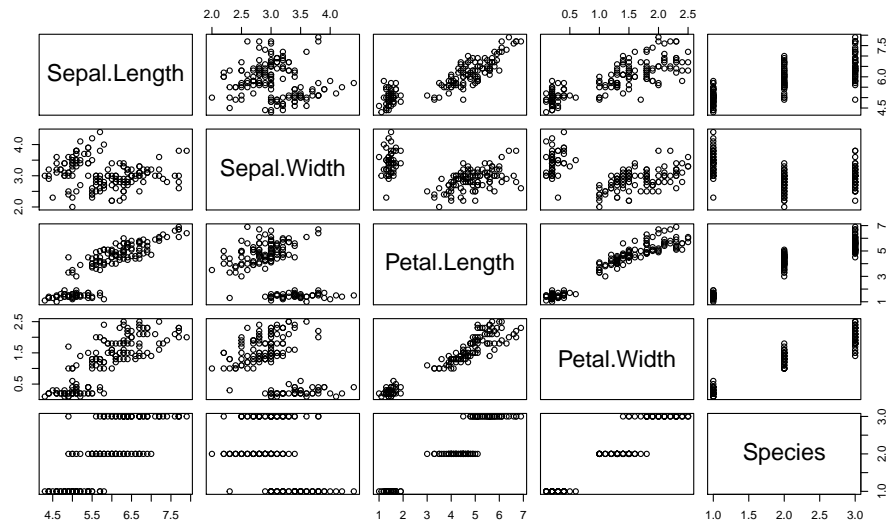
ggplot

You can insert a ggplot into a document

```r
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.

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

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

Residuals:
    Min      1Q  Median      3Q     Max
```

```
-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
```
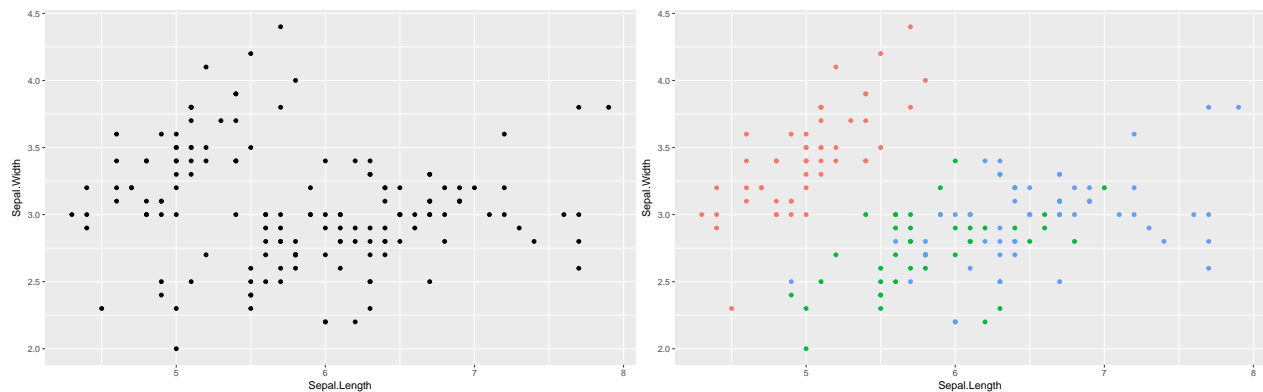
Two ggplots

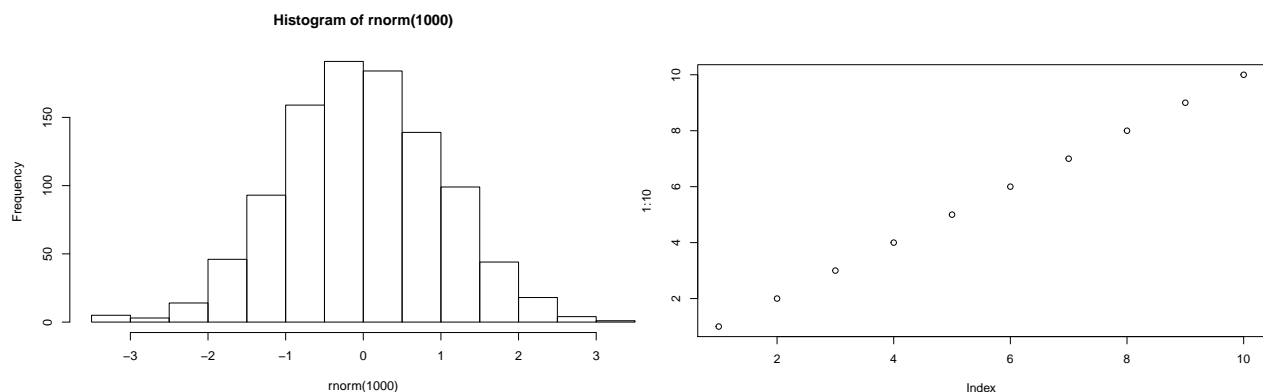You can insert two parallel ggplots with the following code.

```
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)
```