R package rrtable

Keon-Woong Moon 2018-04-15 01:12:59

```
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 folllowing 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

ztable3(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 re-		
		producible 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	if(!require(devtools)){ in-	echo=TRUE,
	stallation	the following command.	stall.packages("devtools")	eval=FALSE
			}	diamaan (mutabla")
hondor?	Package	You can load the 'rrtable' package with	devtools::install_github("car require(rrtable)	echo=TRUE
neader 2	Loading	the following R command.	require(rrtable)	ecno=11CE
header2	Sample Data	Sample data sampleData3 is included	str(sampleData3)	echo=TRUE,
ncauci 2	Sample Bata	in rrtable package. You can see the	sur (sampleDavae)	eval=TRUE
		sampleData3 by following R command.		0,441 1100 2
table	Paragraph	You can make a paragraph with this	df2flextable3(sampleData3)	landscape=TRUE
	0 1	data	,	1
mytable	mytable ob-	You can add mytable object with the	$mytable(Dx^{},data=acs)$	
	ject	following R code.		
plot	Plot	You can insert a plot into your docu-	plot(iris)	
		ment.		
ggplot	ggplot	You can insert a ggplot into a document	ggplot(iris,aes(x=Sepal.Leng	$gth,y=Sepal.Width,color=S_{ij}$
			geom_point()	
Rcode	R code	You can insert the result of R code. For	fit=lm(mpg~wt*hp,data=mt	tcars)
		example, you can insert the result of	summary(fit)	
0 1- 4	There	regression analysis.	1-+(::(S1)	C1 777: 141-\\
2ggplots	Two ggplots	You can insert two parallel ggplots with	ggplot(iris,aes(Sepal.Length,	- //
		the following code.	ggplot(iris,aes(Sepal.Length, geom_point()+guides(colou:	
2plots	Two plots	You can insert two parallel plots with	hist(rnorm(1000))	I—FALSE)
2p1065	1 wo plots	the following code.	plot(1:10)	
header2	HTML	You can get report with HTML for-	data2HTML(sampleData3)	echo=TRUE,
11000012	Report	mat(this file) by following R command.	(SampleDatas)	eval=FALSE

mytable object

You can add mytable object with the following R code.

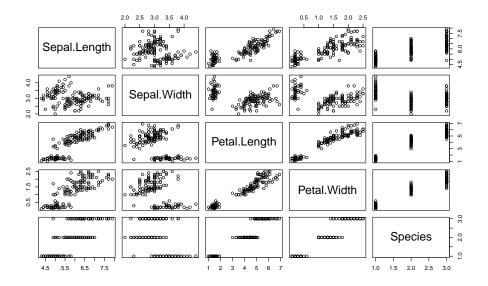
```
result= mytable(Dx~.,data=acs)
print(ztable(result,longtable=TRUE),type='latex')
```

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		NOTEMI	CUEMI	TT 1-1 - A	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		NSTEMI (N. 152)	STEMI	Unstable Angina	р
Female					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		64.3 ± 12.3	62.1 ± 12.1	63.8 ± 11.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		((0.012
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		103 (67.3%)	220 (72.4%)	247 (61.8%)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-				0.000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Yes	4 (2.6%)	$48 \ (15.8\%)$	0 (0.0%)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	entry				0.001
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Femoral	58 (37.9%)	$133 \ (43.8\%)$	121 (30.2%)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Radial	95~(62.1%)	171 (56.2%)	279 (69.8%)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	EF	55.0 ± 9.3	52.4 ± 9.5	59.2 ± 8.7	0.000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	height	163.3 ± 8.2	165.1 ± 8.2	161.7 ± 9.7	0.000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	weight	64.3 ± 10.2	65.7 ± 11.6	64.5 ± 11.6	0.361
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	BMI	24.1 ± 3.2	24.0 ± 3.3	24.6 ± 3.4	0.064
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	obesity				0.186
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	No	106 (69.3%)	209 (68.8%)	252 (63.0%)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Yes				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	TC	193.7 ± 53.6	183.2 ± 43.4	183.5 ± 48.3	0.057
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	LDLC	126.1 ± 44.7	116.7 ± 39.5	112.9 ± 40.4	0.004
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%)	HDLC	38.9 ± 11.9	38.5 ± 11.0	37.8 ± 10.9	0.501
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	TG	130.1 ± 88.5	106.5 ± 72.0	137.4 ± 101.6	0.000
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	DM				0.209
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%)	No	96 (62.7%)	208 (68.4%)	249 (62.2%)	
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%)	Yes			` /	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	НВР	(-: -, -,	(, -,	(-, -, -, -,	0.002
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%)		62 (40.5%)	150 (49.3%)	144 (36.0%)	
smoking 0.000 Ex-smoker 42 (27.5%) 66 (21.7%) 96 (24.0%) Never 50 (32.7%) 97 (31.9%) 185 (46.2%)	Yes	\ /	` ,		
Ex-smoker 42 (27.5%) 66 (21.7%) 96 (24.0%) Never 50 (32.7%) 97 (31.9%) 185 (46.2%)		- (*****)	- (- (/ 0)	(===,0)	0.000
Never $50(32.7\%)$ $97(31.9\%)$ $185(46.2\%)$	~	42 (27.5%)	66 (21.7%)	96 (24.0%)	3.000
	Smoker	61 (39.9%)	141 (46.4%)	119 (29.8%)	

Plot

You can insert a plot into your document.

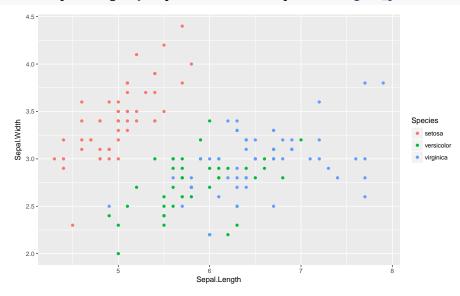
plot(iris)



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
```

```
-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 ***
            -8.21662
                        1.26971
                                -6.471 5.20e-07 ***
wt
            -0.12010
                        0.02470 -4.863 4.04e-05 ***
hp
                                 3.753 0.000811 ***
             0.02785
                        0.00742
wt:hp
Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
```

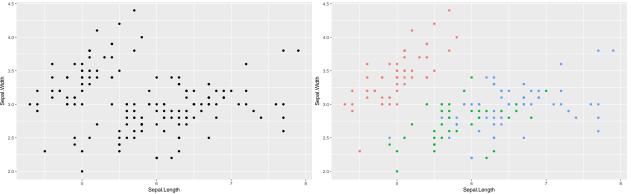
Residual standard error: 2.153 on 28 degrees of freedom Multiple R-squared: 0.8848, Adjusted R-squared: 0.8724

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.

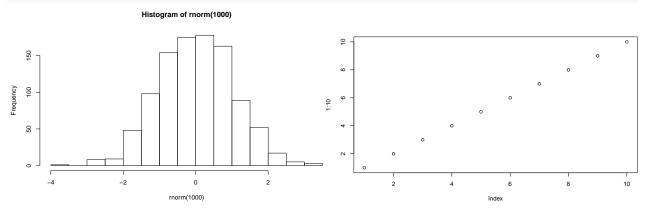
```
ggplot(iris,aes(Sepal.Length,Sepal.Width))+geom_point()
ggplot(iris,aes(Sepal.Length,Sepal.Width,colour=Species))+ geom_point()+guides(colour=FALSE)
```



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)