

# Package ‘webr’

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**Type** Package

**Title** Data and Functions for Web-Based Analysis

**Version** 0.1.5

**Imports** moonBook, ggplot2, shiny, stringr, sjlabelled, flextable,  
magrittr, rrtable, dplyr, tibble, purrr, rlang, tidyr,  
tidyselect, psych, grid, ztable, ggforce, scales, vcd

**URL** <https://github.com/cardiomoon/webr>

**BugReports** <https://github.com/cardiomoon/webr/issues>

**Description** Several analysis-related functions for the book entitled  
``Web-based Analysis without R in Your Computer''(written in Korean, ISBN 978-89-5566-  
185-9)  
by Keon-Woong Moon. The main function plot.htest() shows the distribution of statistic for  
the object of class 'htest'.

**Depends** R (>= 2.10)

**License** GPL-3

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.0.2

**VignetteBuilder** knitr

**Suggests** testthat, knitr, rmarkdown

**NeedsCompilation** no

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**Repository** CRAN

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BiVar

*Extract bivariate variables*

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### Description

Extract bivariate variables

### Usage

BiVar(df)

### Arguments

df                    a data.frame

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ContinuousVar	<i>Extract continuous variables</i>
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**Description**

Extract continuous variables

**Usage**

```
ContinuousVar(df)
```

**Arguments**

df	a data.frame
----	--------------

---

cox.stuart.test	<i>Cox-Stuart test for trend analysis The Cox-Stuart test is defined as a little powerful test (power equal to 0.78), but very robust for the trend analysis. It is therefore applicable to a wide variety of situations, to get an idea of the evolution of values obtained. The proposed method is based on the binomial distribution. This function was written by Tommaso Martino&lt;todoslogos@gmail.com&gt; (See 'References')</i>
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**Description**

Cox-Stuart test for trend analysis The Cox-Stuart test is defined as a little powerful test (power equal to 0.78), but very robust for the trend analysis. It is therefore applicable to a wide variety of situations, to get an idea of the evolution of values obtained. The proposed method is based on the binomial distribution. This function was written by Tommaso Martino<todoslogos@gmail.com> (See 'References')

**Usage**

```
cox.stuart.test(x)
```

**Arguments**

x	A numeric vector
---	------------------

**Value**

A list with class "htest"

**References**

Original code: <http://statistic-on-air.blogspot.kr/2009/08/trend-analysis-with-cox-stuart-test-in.html>

**Examples**

```
customers = c(5, 9, 12, 18, 17, 16, 19, 20, 4, 3, 18, 16, 17, 15, 14)
cox.stuart.test(customers)
```

---

extractLabels	<i>Extract labels</i>
---------------	-----------------------

---

**Description**

Extract labels

**Usage**

```
extractLabels(x)
```

**Arguments**

x	a vector
---	----------

---

freqSummary	<i>Make table summarizing frequency</i>
-------------	---

---

**Description**

Make table summarizing frequency

**Usage**

```
freqSummary(x, digits = 1, lang = "en")
```

**Arguments**

x	A vector
digits	integer indicating the number of decimal places
lang	Language. choices are one of c("en","kor")

**Examples**

```
require(moonBook)
freqSummary(acs$Dx)
#freqSummary(acs$smoking, lang="kor")
```

---

freqTable	<i>Make flextable summarizing frequency</i>
-----------	---

---

**Description**

Make flextable summarizing frequency

**Usage**

```
freqTable(  
  x,  
  digits = 1,  
  lang = getOption("freqTable.lang", "en"),  
  vanilla = FALSE,  
  ...  
)
```

**Arguments**

x	A vector
digits	integer indicating the number of decimal places
lang	Language. choices are one of c("en","kor")
vanilla	Logical. Whether make vanilla table or not
...	Further arguments to paseed to the df2flextable function

**Value**

An object of class flextable

**Examples**

```
require(moonBook)  
freqTable(acs$Dx)  
#freqTable(acs$smoking, lang="kor", vanilla=TRUE, fontsize=12)
```

---

gg_color_hue	<i>Make default palette</i>
--------------	-----------------------------

---

**Description**

Make default palette

**Usage**

```
gg_color_hue(n)
```

**Arguments**

n                    number of colors

---

GroupVar                    *Extract categorical variables*

---

**Description**

Extract categorical variables

**Usage**

```
GroupVar(df, max.ylev = 20)
```

**Arguments**

df                    a data.frame  
max.ylev              maximal length of unique values of categorical variables

---

langchoice1                *Select word*

---

**Description**

Select word

**Usage**

```
langchoice1(id, lang = "en")
```

**Arguments**

id                    data id  
lang                  language. Possible choices are c("en","kor")

---

makeSub	<i>Make subtitle</i>
---------	----------------------

---

**Description**

Make subtitle

**Usage**

makeSub(x)

**Arguments**

x	An object of class "htest"
---	----------------------------

---

makeSubColor	<i>Make subcolors with main colors</i>
--------------	--

---

**Description**

Make subcolors with main colors

**Usage**

makeSubColor(main, no = 3)

**Arguments**

main	character. main colors
no	number of subcolors

---

mychisq.test	<i>My chisquare test</i>
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---

**Description**

My chisquare test

**Usage**

mychisq.test(x)

**Arguments**

x	a table
---	---------

---

 numSummary

*Numerical Summary*


---

### Description

Numerical Summary

### Usage

```
numSummary(x, ..., digits = 2, lang = "en")
```

```
numSummary1(x, ..., digits = 2, lang = "en")
```

```
numSummary2(x, ..., digits = 2, lang = "en")
```

### Arguments

x	A numeric vector or a data.frame or a grouped_df
...	further arguments to be passed
digits	integer indicating the number of decimal places
lang	Language. choices are one of c("en","kor")

### Functions

- numSummary1: Numerical Summary of a data.frame or a vector
- numSummary2: Numerical Summary of a grouped\_df

### Examples

```
require(moonBook)
require(magrittr)
require(dplyr)
require(rtable)
require(webr)
require(tibble)
numSummary(acs)
numSummary(acs$age)
numSummary(acs, age, EF)
acs %>% group_by(sex) %>% numSummary(age, BMI)
acs %>% group_by(sex) %>% select(age) %>% numSummary
acs %>% group_by(sex) %>% select(age, EF) %>% numSummary
acs %>% group_by(sex, Dx) %>% select(age, EF) %>% numSummary
acs %>% group_by(sex, Dx) %>% select(age) %>% numSummary
#acs %>% group_by(sex, Dx) %>% numSummary(age, EF, lang="kor")
```

---

numSummaryTable	<i>Make a table showing numerical summary</i>
-----------------	---

---

**Description**

Make a table showing numerical summary

**Usage**

```
numSummaryTable(
  x,
  ...,
  lang = getOption("numSummaryTable.lang", "en"),
  vanilla = FALSE,
  add.rownames = NULL
)
```

**Arguments**

x	A grouped_df or a data.frame or a vector
...	further argument to be passed
lang	Language. choices are one of c("en","kor")
vanilla	Logical. Whether make vanilla table or not
add.rownames	Logical. Whether or not add rownames

**Examples**

```
require(moonBook)
require(dplyr)
numSummaryTable(acs)
numSummaryTable(acs$age)
acs %>% group_by(sex) %>% select(age) %>% numSummaryTable
acs %>% group_by(sex) %>% select(age,EF) %>% numSummaryTable
acs %>% group_by(sex,Dx) %>% select(age,EF) %>% numSummaryTable(vanilla=FALSE)
acs %>% group_by(sex,Dx) %>% numSummaryTable(age,EF,add.rownames=FALSE)
```

---

PieDonut	<i>Draw a PieDonut plot</i>
----------	-----------------------------

---

**Description**

Draw a PieDonut plot

**Usage**

```

PieDonut(
  data,
  mapping,
  start = getOption("PieDonut.start", 0),
  addPieLabel = TRUE,
  addDonutLabel = TRUE,
  showRatioDonut = TRUE,
  showRatioPie = TRUE,
  ratioByGroup = TRUE,
  showRatioThreshold = getOption("PieDonut.showRatioThreshold", 0.02),
  labelposition = getOption("PieDonut.labelposition", 2),
  labelpositionThreshold = 0.1,
  r0 = getOption("PieDonut.r0", 0.3),
  r1 = getOption("PieDonut.r1", 1),
  r2 = getOption("PieDonut.r2", 1.2),
  explode = NULL,
  selected = NULL,
  explodePos = 0.1,
  color = "white",
  pieAlpha = 0.8,
  donutAlpha = 1,
  maxx = NULL,
  showPieName = TRUE,
  showDonutName = FALSE,
  title = NULL,
  pieLabelSize = 4,
  donutLabelSize = 3,
  titlesize = 5,
  explodePie = TRUE,
  explodeDonut = FALSE,
  use.label = TRUE,
  use.labels = TRUE,
  family = getOption("PieDonut.family", "")
)

```

**Arguments**

<code>data</code>	A data.frame
<code>mapping</code>	Set of aesthetic mappings created by <code>aes</code> or <code>aes_</code> .
<code>start</code>	offset of starting point from 12 o'clock in radians
<code>addPieLabel</code>	A logical value. If TRUE, labels are added to the Pies
<code>addDonutLabel</code>	A logical value. If TRUE, labels are added to the Donuts
<code>showRatioDonut</code>	A logical value. If TRUE, ratios are added to the DonutLabels
<code>showRatioPie</code>	A logical value. If TRUE, ratios are added to the PieLabels
<code>ratioByGroup</code>	A logical value. If TRUE, ratios are calculated per group

showRatioThreshold	An integer. Threshold to show label as a ratio of total. default value is 0.02.
labelposition	A number indicating the label position
labelpositionThreshold	label position threshold. Default value is 0.1.
r0	Integer. start point of pie
r1	Integer. end point of pie
r2	Integer. end point of donut
explode	pies to explode
selected	donuts to explode
explodePos	explode position
color	color
pieAlpha	transparency of pie
donutAlpha	transparency of pie
maxx	maximum position of plot
showPieName	logical. Whether or not show Pie Name
showDonutName	logical. Whether or not show Pie Name
title	title of plot
pieLabelSize	integer. Pie label size
donutLabelSize	integer. Donut label size
titlesize	integer. Title size
explodePie	Logical. Whether or not explode pies
explodeDonut	Logical. Whether or not explode donuts
use.label	Logical. Whether or not use column label in case of labelled data
use.labels	Logical. Whether or not use value labels in case of labelled data
family	font family

### Examples

```

require(moonBook)
require(ggplot2)
browser=c("MSIE","Firefox","Chrome","Safari","Opera")
share=c(50,21.9,10.8,6.5,1.8)
df=data.frame(browser,share)
PieDonut(df,aes(browser,count=share),r0=0.7,start=3*pi/2,labelpositionThreshold=0.1)

PieDonut(df,aes(browser,count=share),r0=0.7,explode=5,start=3*pi/2)
PieDonut(mtcars,aes(gear,carb),start=3*pi/2,explode=3,explodeDonut=TRUE,maxx=1.7)
PieDonut(mtcars,aes(carb,gear),r0=0)
PieDonut(acs,aes(smoking,Dx),title="Distribution of smoking status by diagnosis")
PieDonut(acs,aes(Dx,smoking),ratioByGroup=FALSE,r0=0)
PieDonut(acs,aes(Dx,smoking),selected=c(1,3,5,7),explodeDonut=TRUE)
PieDonut(acs,aes(Dx,smoking),explode=1,selected=c(2,4,6,8),labelposition=0,explodeDonut=TRUE)

```

```

PieDonut(acs,aes(Dx,smoking),explode=1)
PieDonut(acs,aes(Dx,smoking),explode=1,explodeDonut=TRUE,labelposition=0)
PieDonut(acs,aes(Dx,smoking),explode=1,explodePie=FALSE,explodeDonut=TRUE,labelposition=0)
PieDonut(acs,aes(Dx,smoking),selected=c(2,5,8), explodeDonut=TRUE,start=pi/2,labelposition=0)
PieDonut(acs,aes(Dx,smoking),r0=0.2,r1=0.9,r2=1.3,explode=1,start=pi/2,explodeDonut=TRUE)
PieDonut(acs,aes(Dx,smoking),r0=0.2,r1=0.9,r2=1.3,explode=1,start=pi/2,labelposition=0)
PieDonut(acs,aes(Dx,smoking),explode=1,start=pi,explodeDonut=TRUE,labelposition=0)
require(dplyr)
df=mtcars %>% group_by(gear,carb) %>% summarize(n=n())
PieDonut(df,aes(pies=gear,donuts=carb,count=n),ratioByGroup=FALSE)

```

---

plot.htest

*Plotting distribution of statistic for object "htest"*


---

## Description

Plotting distribution of statistic for object "htest"

## Usage

```
## S3 method for class 'htest'
plot(x, ...)
```

## Arguments

x	object of class "htest"
...	further arguments to ggplot

## Value

a ggplot or NULL

## Examples

```

require(moonBook)
require(webr)
## chi-square test
x=chisq.test(table(mtcars$am,mtcars$cyl))
plot(x)

#Welch Two Sample t-test
x=t.test(mpg~am,data=mtcars)
plot(x)

x=t.test(BMI~sex,data=acs)
plot(x)

# F test to compare two variances

```

```

x=var.test(age~sex,data=acs,alternative="less")
plot(x)

# Paired t-test
x=t.test(iris$Sepal.Length,iris$Sepal.Width,paired=TRUE)
plot(x)

# One sample t-test
plot(t.test(acs$age,mu=63))

# Two sample t-test
x=t.test(age~sex, data=acs,conf.level=0.99,alternative="greater",var.equal=TRUE)
plot(x)

```

---

renew_dic	<i>Renew dictionary Renew dictionary</i>
-----------	--

---

**Description**

Renew dictionary Renew dictionary

**Usage**

```
renew_dic()
```

---

runs.test	<i>Runs test for randomness</i>
-----------	---------------------------------

---

**Description**

Runs test for randomness

**Usage**

```

runs.test(
  y,
  plot.it = FALSE,
  alternative = c("two.sided", "positive.correlated", "negative.correlated")
)

```

**Arguments**

y	A vector
plot.it	A logical. whether or not draw a plot
alternative	a character string specifying the alternative hypothesis, must be one of "two.sided" (default), "greater" or "less".

**Value**

A list with class "htest" containing the following components: statistic,p-value,method and data.name

**Examples**

```
y=c(1,2,2,1,1,2,1,2)
runs.test(y)
y=c("A","B","B","A","A","B","A","B")
runs.test(y,alternative="p")
```

---

transparent	<i>Make transparent theme</i>
-------------	-------------------------------

---

**Description**

Make transparent theme

**Usage**

```
transparent(size = 0)
```

**Arguments**

size	border size. default value is 0
------	---------------------------------

---

x2result	<i>Extract x2 statistical result</i>
----------	--------------------------------------

---

**Description**

Extract x2 statistical result

**Usage**

```
x2result(x)
```

**Arguments**

x	a table
---	---------

---

x2summary	<i>Summarize chisquare result</i>
-----------	-----------------------------------

---

**Description**

Summarize chisquare result

**Usage**

```
x2summary(  
  data = NULL,  
  x = NULL,  
  y = NULL,  
  a,  
  b,  
  margin = 1,  
  show.percent = TRUE,  
  show.label = TRUE  
)
```

**Arguments**

data	A data.frame
x	a column name
y	a column name
a	a vector
b	a vector
margin	numeric If 1 row percent, if 2 col percent
show.percent	logical
show.label	logical

**Examples**

```
require(moonBook)  
x2summary(acs, sex, DM)
```

---

x2Table	<i>Make a chisquare result table</i>
---------	--------------------------------------

---

### Description

Make a chisquare result table

### Usage

```
x2Table(  
  data,  
  x,  
  y,  
  margin = 1,  
  show.percent = TRUE,  
  show.label = TRUE,  
  show.stat = TRUE,  
  vanilla = FALSE,  
  fontsize = 12,  
  ...  
)
```

### Arguments

data	A data.frame
x	a column name
y	a column name
margin	numeric If 1 row percent, if 2 col percent
show.percent	logical
show.label	logical
show.stat	logical
vanilla	logical whether or not make vanilla table
fontsize	A numeric
...	Further arguments to be passed to df2flextable()

### Examples

```
require(moonBook)  
x2Table(acs, sex, DM)
```

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