Package 'ds'

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Type Package

Title Descriptive Statistics

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Description The package performs various analyzes of descriptive statistics, including correlations

License GPL-2

NeedsCompilation no

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`ds-package` *Descriptive Statistics*

Description

The package performs various analyzes of descriptive statistics, including correlations

Details

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Author(s)

Emmanuel Arnhold

emmanuelarnhold@yahoo.com.br

References

KAPS, M. and LAMBERSON, W. R. Biostatistics for Animal Science: an introductory text. 2nd Edition. CABI Publishing, Wallingford, Oxfordshire, UK, 2009. 504p.

Examples

```
# Example of weights and heart girths of cows.
# Weight was measured in kg and heart girth in cm on 10 cows (Kaps and Lamberson, 2009).
Weight=c(641, 620, 633, 651, 640, 666, 650, 688, 680, 670)
Heart_girth=c(205, 212, 213, 216, 216, 217, 218, 219, 221, 226)

data=data.frame(Weight,Heart_girth)

r1<-dscor(data)
r1

r2<-dscor(data, option=2)
r2

r3<-dscor(data, method=2, option=1)
r3

r4<-dscor(data, method=2, option=2)
r4

r5<-gds(data)
r5
```

`dplot` *Dispersion Plot*

Description

Plot dispersion of first column of data in relation other columns

Usage

```
dplot(data, xlab = "Variable x", ylab = "Variable y", position = 1, colors = TRUE,
type = "o", mean=TRUE)
```

Arguments

`data`	data is a data.frame
`xlab`	x-axis title
`ylab`	y-axis title
`position`	position of legend top=1 (default) bottomright=2 bottom=3 bottomleft=4 left=5 topleft=6 topright=7 right=8 center=9
`colors`	colors lines =TRUE (default) or black lines =FALSE
`type`	type of plot (see the plot function)
`mean`	plot means = TRUE (default) or plot original data = FALSE

Author(s)

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See Also

dscor, gds, tables

Examples

```
Time=c(10,20,30,40,50,60,70)
x=c(1,3,5,6,7,9,6)
y=c(4,6,8,9,10,15,16)
z=c(1,5,18,19,22,20,15)

data=data.frame(Time,x,y,z)

dplot(data)
```

---

dscor *Descriptive Statistics (correlations)*

Description

The function estimates and test correlations

Usage

```
dscor(data, method = 1, option = 1)
```

Arguments

data	data is a data.frame or matrix
method	method = 1 Pearson (default) method = 2 Spearman
option	option = 1 return data.frame (default) option = 2 return matrix

Value

The function returns correlations (Pearson and Spearman) and probability values of the t test

In option = 2 (return matrix), diagonally above contains the correlations and diagonally below contains the p-values of t test

Author(s)

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References

KAPS, M. and LAMBERSON, W. R. Biostatistics for Animal Science: an introductory text. 2nd Edition. CABI Publishing, Wallingford, Oxfordshire, UK, 2009. 504p.

See Also

gds, cor, cor.test

Examples

```
# Example of weights and heart girths of cows.
# Weight was measured in kg and heart girth in cm on 10 cows (Kaps and Lamberson, 2009).

Weight=c(641, 620, 633, 651, 640, 666, 650, 688, 680, 670)
Heart_girth=c(205, 212, 213, 216, 216, 217, 218, 219, 221, 226)

data=data.frame(Weight,Heart_girth)

#Pearson (table)
r1<-dscor(data)
r1

# Pearson (matrix)
r2<-dscor(data, option=2)
r2

# Spearman (table)
r3<-dscor(data, method=2, option=1)
r3

# Spearman (matrix)
r4<-dscor(data, method=2, option=2)
r4

# fictional example

var1=c(10,13,14,16,18,22,29,28,35)
var2=c(0.5,1,1.5,2,2.5,3,3.5,4,4.5)
var3=c(102,NA,106,91,109,108,120,101,NA)
var4=c(500,456,423,378,312,263,200,120,50)
var5=c(18,09,22,NA,26,59,10,NA,96)

table=data.frame(var1,var2,var3,var4,var5)

#Pearson
r5<-dscor(table)
r5

r6<-dscor(table, option=2)
r6

# Spearman
r7<-dscor(table, method=2, option=1)
r7

r8<-dscor(table, method=2, option=2)
r8
```

gds *General Descriptive Statistics*

Description

The function performs various analyzes of descriptive statistics

Usage

```
gds(data)
```

Arguments

data	data is a numeric vector, data.frame or matrix

Value

The function return mean, maximum, minimum, median, mean + or - standard deviation, quantiles, n, range, variance, standard deviation, standard error of the mean, coefficiente of variation, skewness, kurtosis, normality test (p-value of the Shapiro-Wilk test)

Author(s)

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References

KAPS, M. and LAMBERSON, W. R. Biostatistics for Animal Science: an introductory text. 2nd Edition. CABI Publishing, Wallingford, Oxfordshire, UK, 2009. 504p.

See Also

dscor, cor, cor.test, summary

Examples

```
# Example of weights and heart girths of cows.
# Weight was measured in kg and heart girth in cm on 10 cows (Kaps and Lamberson, 2009).

Weight=c(641, 620, 633, 651, 640, 666, 650, 688, 680, 670)
Heart_girth=c(205, 212, 213, 216, 216, 217, 218, 219, 221, 226)

r1<-gds(Weight)
r1
```

```
r2<-gds(Heart_girth)
r2

data=data.frame(Weight,Heart_girth)

r3<-gds(data)
r3

# fictional example

var1=c(10,13,14,16,18,22,29,28,35)
var2=c(0.5,1,1.5,2,2.5,3,3.5,4,4.5)
var3=c(102,NA,106,91,109,108,120,101,NA)
var4=c(500,456,423,378,312,263,200,120,50)
var5=c(18,09,22,NA,26,59,10,NA,96)

table=data.frame(var1,var2,var3,var4,var5)

r6=gds(table)
r6

#kurtosis
r6[24,]
r6[24,]-3
```

`tables` *Tables of Categorical Variables*

Description

Organizes various tables of categorical variables and tests tables (Chi-square and Fisher's exact test)

Usage

```
tables(data)
```

Arguments

`data`	data is a data.frame

Author(s)

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See Also

gds, dscor, dplot

Examples

```
treatments=gl(2, 30, labels = c("Control", "Treat"))
resultsA=rep(c("positive","negative", "positive","negative"),c(25,5,7,23))
resultsB=rep(c("positive","negative", "positive","negative"),c(28,2,8,22))
resultsC=rep(c("positive","negative", "positive","negative"),c(16,14,13,17))

data=data.frame(treatments,resultsA, resultsB, resultsC)

r=tables(data)

names(r)

r

r[1]
r[2]
r[6]
```

X *X function*

Description

The function performs input tables of the environment R

Usage

```
X(x)
```

Arguments

x	x is NULL

Details

insert

X ()

select the desired table and press enter

observation: the mouse cursor should be in front of X ()

Value

returns a data.frame

Author(s)

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See Also

gds, dscor

Examples

```
#X()
```

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