

# Package ‘ds’

October 13, 2022

**Type** Package

**Title** Descriptive Statistics

**Version** 4.0

**Date** 2019-07-07

**Author** Emmanuel Arnhold

**Maintainer** Emmanuel Arnhold <emmanuelarnhold@yahoo.com.br>

**Description**

Performs various analyzes of descriptive statistics, including correlations, graphics and tables.

**Depends** R (>= 3.0.0)

**License** GPL-2

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2019-07-10 20:12:50 UTC

## R topics documented:

ds-package . . . . .	2
dplot . . . . .	4
dscor . . . . .	5
gds . . . . .	7
tables . . . . .	8
X . . . . .	9

<b>Index</b>	<b>11</b>
--------------	-----------

---

ds-package

*Descriptive Statistics*

---

**Description**

The package performs various analyzes of descriptive statistics, including correlations

**Details**

Package: ds  
Type: Package  
Version: 4.0  
Date: 2018-07-07  
License: GPL-2

### 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)**

Emmanuel Arnhold  
emmanuelarnhold@yahoo.com.br

### **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)**

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.

**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)**

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.

### **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)**

Emmanuel Arnhold  
emmanuelarnhold@yahoo.com.br

### **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)**

Emmanuel Arnhold  
emmanuelarnhold@yahoo.com.br

**See Also**

gds, dscor

**Examples**

#X()

# Index

dplot, 4  
ds (ds-package), 2  
ds-package, 2  
dscor, 5  
  
gds, 7  
  
tables, 8  
  
X, 9