Package ‘mycor’

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Title Automatic Correlation and Regression Test in a Data Frame

Version 0.1

Description Perform correlation and linear regression test among the numeric columns in a data frame automatically and make plots using pairs or lattice::parallelplot.

Depends R (>= 3.1.1)

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LazyData true

Imports lattice

Suggests knitr, testthat

VignetteBuilder knitr

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**mycor**

Perform correlation and linear regression for a data.frame automatically

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**Description**

Perform correlation and linear regression for a data.frame automatically

**Usage**

```r
mycor(x, ..., digits)
```

```r
## Default S3 method:
mycor(x, ..., digits = 3)
```

```r
## S3 method for class 'formula'
mycor(formula, data, ..., digits = 3)
```

**Arguments**

- `x`: A data.frame.
- `...`: further arguments to be passed to `cor.test`.
- `digits`: integer indicating the number of decimal places (round) or significant digits (signif) to be used.
- `formula`: a formula of the form `~ u + v`, where each of `u` and `v` are numeric variables giving the data values for one sample. The samples must be of the same length.
- `data`: A data.frame
- `mycor`: Object to mycor

**Value**

mycor returns as object of class "mycor"

The function summary is used to print a summary of the result. The function plot is used to plot the results using `pairs` and `parallelplot`.

An object of class "mycor:" is a list containing at least following components:

- `df`: a data.frame
- `select`: logical vectors returns if columns of df is.numeric
- `out`: a list of class "htest" from `cor.test` between the last paired samples in a data.frame.
- `r`: a matrix consist of r values from `cor.test` between all pairs of numeric data from a data.frame
- `p`: a matrix consist of p values from `cor.test` between all pairs of numeric data from a data.frame
- `slope`: a matrix consist of slope values from `lm` between all pairs of numeric data from a data.frame
- `intercept`: a matrix consist of intercept values from `lm` between all pairs of numeric data from a data.frame
**mylm**

**Methods (by class)**

- **default**: for class `data.frame`
- **formula**: for class "formula"

**Examples**

```r
out <- mycor(iris)
plot(out)
plot(out, groups=Species)
plot(out, type=2, groups=species)
plot(out, type=4, groups=species)
out1 <- mycor(~mpg+disp+wt+hp, data=mtcars, alternative="greater",
              methods="kendall", conf.level=0.95)
plot(out1, type=3)
plot(out1, type=4, groups=cyl)
```

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**Description**

Correlation and Fitting linear model function for function "mycor"

**Usage**

```r
mylm(y, x, ..., digits = 3)
```

**Arguments**

- **y** numeric vectors of data values
- **x** numeric vectors of data values
- **...** further arguments to be passed to or from methods.
- **digits** integer indicating the number of decimal places (round) or significant digits (significant) to be used.

**Value**

`mylm` returns a list of following components

- **out** a list of class "htest" from `cor.test` between the last paired samples in a data.frame.
- **result** a numeric vector of length 4, consist of r and p values from `cor.test`, slope and intercept values from `lm` between numeric vector y and x
panel.cor  
*Make correlation plot for plot of class "mycor"*

**Description**
Make correlation plot for plot of class "mycor"

**Usage**
```r
panel.cor(x, y, digits = 2, prefix = "", cex.cor)
```

**Arguments**
- `x`: a numeric vector
- `y`: a numeric vector
- `digits`: integer indicating the number of decimal places (round) or significant digits (signif) to be used.
- `prefix`: a character vector
- `cex.cor`: a numeric variable

panel.hist  
*Make plot with histogram for plot of class "mycor"*

**Description**
Make plot with histogram for plot of class "mycor"

**Usage**
```r
panel.hist(x, ...)
```

**Arguments**
- `x`: a numeric vector
- `...`: further arguments to be passed to or from methods.
Description

Plot for an object of class "mycor"

Usage

## S3 method for class 'mycor'
plot(x, ..., groups = -1, type = 1)

Arguments

x an object of class "mycor"

... further arguments to be passed to pairs or parallelplot (in case of "type" argument is 4).

groups a variable to be evaluated in a data.frame x$df, expected to act as a grouping variable within each panel, typically used to distinguish different groups by varying graphical parameters like color and line type.

type specify the type of plot

1 makes plot with pairs
2 makes plot with pairs using panel.hist as a diagonal panel
3 makes plot with pairs using panel.cor as an upper panel
4 makes plot with parallelplot using panel.cor as a upper panel

Examples

out=mycor(iris)
plot(out)
plot(out, groups=Species)
plot(out,type=2,groups=species)
out1=mycor(mtcars[1:5],alternative="greater",methods="kendall",
  conf.level=0.95)
plot(out1,type=3)
plot(out1,type=4,groups=cyl)
print.mycor

Print function for class "mycor"

Usage

## S3 method for class 'mycor'
print(x, ...)

Arguments

x               an object of class "mycor", a result of a call to mycor.
...

further arguments to be passed to or from methods.

Examples

out = mycor(iris)
print(out)

summary.mycor

Summarizing function for class "mycor"

Usage

## S3 method for class 'mycor'
summary(object, ...)

Arguments

object             an object of class "mycor", a result of a call to mycor.
...

further arguments to be passed to or from methods.

Examples

out = mycor(iris)
summary(out)
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