Package ‘Rmisc’
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License GPL-3
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R topics documented:

CI .................................................. 2
group.CI ........................................ 2
group.STDERR .................................. 3
group.UCL ....................................... 4
lr.glover ....................................... 4
multiplot ....................................... 5
normDataWithin ................................ 6
panel.circle .................................... 7
rounder ......................................... 7
rsi ................................................ 8
STDERR ......................................... 8
summarySE ....................................... 9
summarySEwithin ............................. 10
CI

Confidence Interval

Description
Calculates the confidence interval of a vector of data.

Usage
CI(x, ci = 0.95)

Arguments
x a vector of data
ci the confidence interval to be calculated

Value
upper Upper bound of interval.
mean Mean of data.
lower Lower bound of interval.

Examples
CI(rnorm(100))

---

group.CI

Group Confidence Interval

Description
Calculates the confidence interval of grouped data

Usage
group.CI(x, data, ci = 0.95)

Arguments
x an ‘aggregate’ compatible formula
data a data frame (or list) from which the variables in formula should be taken
 ci the confidence interval to be calculated
Value
A data frame consisting of one column for each grouping factor plus three columns for the upper bound, mean and lower bound of the confidence interval for each level of the grouping factor.

Examples
```r
require(latticeExtra)
with(group.CI(weight~feed,chickwts),
  segplot(feed~weight.lower+weight.upper,center=weight.mean)
)

require(Hmisc)
with(group.CI(Temp~Month,airquality),
  xyplot(Cbind(Temp.mean,Temp.lower,Temp.upper)~numericScale(Month),type="b",ylim=c(60,90))
)
```

---

**group.STDERR**  
*Group Standard Error Interval*

Description
Calculates the standard error interval of grouped data.

Usage
```
group.STDERR(x, data)
```

Arguments
- `x` an `aggregate` compatible formula
- `data` a data frame (or list) from which the variables in formula should be taken.

Value
A data frame consisting of one column for each grouping factor plus three columns for the upper bound, mean and lower bound of the standard error interval for each level of the grouping factor.

Examples
```r
require(latticeExtra)
with(group.STDERR(weight~feed,chickwts),
  segplot(feed~weight.lower+weight.upper,center=weight.mean)
)

require(Hmisc)
with(group.STDERR(Temp~Month,airquality),
  xyplot(Cbind(Temp.mean,Temp.lower,Temp.upper)~numericScale(Month),type="b",ylim=c(60,90))
)
```
group.UCL: Group Upper-Center-Lower

**Description**

Applies a function which calculates a parameter with lower/upper bounds to groups of data.

**Usage**

```r
group.UCL(x, data, FUN, ...)
```

**Arguments**

- `x`: an ‘aggregate’ compatible formula
- `data`: a data frame (or list) from which the variables in formula should be taken.
- `FUN`: the function to apply to each group
- `...`: extra params passed on to aggregate

**Value**

A data frame consisting of one column for each grouping factor plus three columns for the upper bound, mean and lower bound of the standard error interval for each level of the grouping factor.

**Examples**

```r
require(latticeExtra)
with(group.UCL(weight~feed,chickwts,FUN=CI),
  segplot(feed~weight.lower+weight.upper,center=weight.mean)
)

require(Hmisc)
with(group.UCL(Temp~Month,airquality,FUN=STDERR),
  xyplot(Cbind(Temp.mean,Temp.lower,Temp.upper)-numericScale(Month),type="b",ylim=c(60,90))
)
```

---

**lr.glover: Likelihood Ratio Test**

**Description**

Computes a likelihood ratio statistic which reflects the relative likelihood of the data given two competing models.

**Usage**

```r
lr.glover(object, ..., name = NULL)
```
**multiplot**

**Arguments**

- **object**
  - an object. See below for details.
- **...**
  - further object specifications passed to methods. See below for details.
- **name**
  - a function for extracting a suitable name/description from a fitted model object. By default the name is queried by calling `formula`.

**Value**

An object of class "anova" which contains the log-likelihood, degrees of freedom, the difference in degrees of freedom, likelihood ratio, and AIC/BIC corrected likelihood ratios.

**Details**

`lr.glover` performs comparisons of models via likelihood ratio tests. The default method consecutively compares the fitted model object `object` with the models passed in `...`. Subsequently, a likelihood ratio test for each two consecutive models is carried out.

**References**


**Examples**

```r
m1 <- lm(mpg~., mtcars)
m2 <- step(m1, \-.trace=0)
m3 <- step(m1, \-.+.*2, trace=0)
lr.glover(m1, m2, m3)
```

---

**multiplot**

*Multiple plot function*

**Description**

Renders multiple `ggplot` plots in one image

**Usage**

```r
multiplot(..., plotlist = NULL, cols = 1, layout = NULL)
```

**Arguments**

- **...**
  - ggplot objects
- **plotlist**
  - a list of ggplot objects
- **cols**
  - Number of columns in layout
- **layout**
  - A matrix specifying the layout. If present, 'cols' is ignored
**normDataWithin**

**Description**

Norms the data within specified groups in a data frame; it normalizes each subject (identified by `idvar`) so that they have the same mean, within each group specified by `betweenvars`.

**Usage**

```r
normDataWithin(data = NULL, idvar, measurevar, 
                betweenvars = NULL, na.rm = FALSE, .drop = TRUE)
```

**Arguments**

- `data`: a data frame.
- `idvar`: the name of a column that identifies each subject (or matched subjects).
- `measurevar`: the name of a column that contains the variable to be summarized.
- `betweenvars`: a vector containing names of columns that are between-subjects variables.
- `na.rm`: a boolean that indicates whether to ignore NA’s.
- `.drop`: should combinations of variables that do not appear in the input data be preserved (FALSE) or dropped (TRUE, default).

**Value**

A data frame with normalized data.

**References**

http://www.cookbook-r.com/Graphs/Plotting_means_and_error_bars_(ggplot2)

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**Note**

If the layout is something like `matrix(c(1,2,3,3), nrow=2, byrow=TRUE)`, then plot 1 will go in the upper left, 2 will go in the upper right, and 3 will go all the way across the bottom.

**References**

http://www.cookbook-r.com/Graphs/Multiple_graphs_on_one_page_(ggplot2)
**panel.circle**  

**Circle Drawing**

**Description**

A panel function for drawing circles.

**Usage**

```
panel.circle(x, y, r, segments = 50L, groups = NULL, ...)
```

**Arguments**

- `x`  
The x coordinate of the circle center
- `y`  
The y coordinate of the circle center
- `r`  
The radius of the circle
- `segments`  
The number of polygon segments used to create the circle
- `groups`  
A factor defining groups
- `...`  
Additional arguments passed to panel.polygon

**Examples**

```
panel.circle(0, 0, 10)
```

---

**rounder**  

**Round to Increment**

**Description**

Rounds a value to nearest increment

**Usage**

```
rounder(x, inc, fun = "round")
```

**Arguments**

- `x`  
The value to be rounded
- `inc`  
The increment to round to
- `fun`  
The rounding function. Valid options are 'floor', 'round' and 'ceiling'.

**Value**

an object of class numeric
Examples

rounder(.92, .05)
rounder(.93, .05)
rounder(.93, .05, "floor")
rounder(.93, .05, "ceiling")

rsi Run Start Indices

Description

Find the starting indices of runs in a vector.

Usage

rsi(x)

Arguments

x a vector of data.

Value

a vector of indices indicating starting points for runs

Examples

rsi(c(0,0,0,1,2,2,3,3,3,3,3,4))

STDERR Standard Error

Description

Calculates the standard error interval of a vector of data

Usage

STDERR(x)

Arguments

x a vector of data.
summarySE

Value

upper  Upper bound of interval.
mean   Mean of data.
lower  Lower bound of interval.

Examples

STDERR(rnorm(100))

| summarySE | Summarizes data |

Description

Gives count, mean, standard deviation, standard error of the mean, and confidence interval (default 95%).

Usage

summarySE(data = NULL, measurevar, groupvars = NULL, na.rm = FALSE, conf.interval = 0.95, .drop = TRUE)

Arguments

data  a data frame
measurevar  the name of a column that contains the variable to be summarized
groupvars  a vector containing names of columns that contain grouping variables
na.rm  a boolean that indicates whether to ignore NA's
conf.interval  the percent range of the confidence interval (default is 95%)
.drop  should combinations of variables that do not appear in the input data be preserved (FALSE) or dropped (TRUE, default)

Value

a data frame with count, mean, standard deviation, standard error of the mean, and confidence interval (default 95%).

References

http://www.cookbook-r.com/Graphs/Plotting_means_and_error_bars_(ggplot2)
summarySEwithin \hspace{1cm} Summarize within-subjects data

Description

Summarizes data, handling within-subjects variables by removing inter-subject variability. It will still work if there are no within-S variables. Gives count, mean, standard deviation, standard error of the mean, and confidence interval (default 95%). If there are within-subject variables, calculate adjusted values using method from Morey (2008).

Usage

```r
summarySEwithin(data = NULL, measurevar, 
    betweenvars = NULL, withinvars = NULL, idvar = NULL, 
    na.rm = FALSE, conf.interval = 0.95, .drop = TRUE)
```

Arguments

data \hspace{1cm} a data frame

measurevar \hspace{1cm} the name of a column that contains the variable to be summarized

betweenvars \hspace{1cm} a vector containing names of columns that are between-subjects variables

withinvars \hspace{1cm} a vector containing names of columns that are within-subjects variables

idvar \hspace{1cm} the name of a column that identifies each subject (or matched subjects)

na.rm \hspace{1cm} a boolean that indicates whether to ignore NA's

conf.interval \hspace{1cm} the percent range of the confidence interval (default is 95%)

.drop \hspace{1cm} should combinations of variables that do not appear in the input data be preserved (FALSE) or dropped (TRUE, default)

Value

a data frame with count, mean, standard deviation, standard error of the mean, and confidence interval (default 95%).

References

http://www.cookbook-r.com/Graphs/Plotting_means_and_error_bars_(ggplot2)
Index

*Topic multivariate
  group.CI, 2
  group.STDERR, 3
  group.UCL, 4
*Topic univar
  CI, 2
  STDERR, 8

CI, 2
  group.CI, 2
  group.STDERR, 3
  group.UCL, 4
lr.glover, 4
  multilplot, 5
  normDataWithin, 6
panel.circle, 7
rounder, 7
rsi, 8
STDERR, 8
  summarySE, 9
  summarySEwithin, 10