Package 'PrettyR'

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Title PrettyR

Version 0.1.1

Description Functions to make pretty graphs and tables. See my website <https://sites.google.com/a/g.clemson.edu/ja-resources>. or github <https://github.com/Jadamso>.

Depends R (>= 3.4.1)

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LazyData true

Author Jordan Adamson [aut, cre]

Maintainer Jordan Adamson <jordan.m.adamson@gmail.com>

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RoxygenNote 6.0.1

Imports utils,
stargazer,
parallel

Suggests formattable

R topics documented:

`bin_mode` *Take the Mode of Data after Binning*

Description

Take the Mode of Data after Binning

Usage

```
bin_mode(x, breaks = "Sturges")
```

Arguments

`x`	a numeric vector
`breaks`	see hist

Value

scalar

Examples

```
bin_mode(runif(100))
```

`CI_lu` *Custom confidence intervals*

Description

Custom confidence intervals

Usage

```
CI_lu(Pred = NULL, CI = NULL, Fit = NULL, SE = NULL, level = 0.95,
  degf = Inf)
```

Arguments

Pred	predict(reg, se.fit = TRUE) object
CI	Compute CI From Regression Prediction Object
Fit	Compute Yhat From Regression Prediction Object
SE	Compute Standard errors
level	confidence level
deg	degrees of freedom in t-distribution

Details

Should first try predict(reg, interval = 'confidence', level=level) note deg=inf coef estimates are approx normally distributed

Value

data frame of upper and lower confidence bounds

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loess_list *Run Multiple Loess for Spaghetti Plot*

Description

Run Multiple Loess for Spaghetti Plot

Usage

```
loess_list(form, splitDF, spag_idname, split = FALSE, parallel = TRUE, ...)
```

Arguments

form	regression formula
splitDF	dataframe to regress on
spag_idname	split data frame by this id
split	split up splitDF into list of dataframes?
parallel	use multiple cores
...	arguments passed to loess

Value

list of loess outputs

matJ *Convert Matrix for stargazerJ*

Description

Convert Matrix for stargazerJ

Usage

```
matJ(Xmat, Xrows = (1:nrow(Xmat))[1:nrow(Xmat)%%2 == 0],
  Xcols = 1:ncol(Xmat), Xrd = 0, Xfm = NULL)
```

Arguments

Xmat	a matrix of summary regression information
Xrows	which rows to add braces to
Xcols	which columns to add braces to
Xrd	how many digits to round
Xfm	formatC format

Value

datatable

mfx *Formatting*

Description

Formatting

Usage

```
mfx(MFXall, trimnames = "PCrast5", varnames = c("HHI", "HHI^2"),
  cnames = c("ACLED", "UCDP"), ROOT = TRUE, nvar = 3, colrep = 2)
```

Arguments

nvar	number of variables of interest
colrep	

Value

datatable

mfxi.lm *Run a Regression*

Description

Run a Regression

Usage

```
mfxi.lm(formi, datai, vcv = "standard")
```

Arguments

formi	regression formula
datai	data for regression
vcv	type of covariance correction

Value

summary table

mfxlist2vec *Table Formatting*

Description

Table Formatting

Usage

```
mfxlist2vec(trimlist, nvar = 3)
```

Arguments

trimlist	object from mfxtrim
nvar	number of variables of interest

Value

list of formatted summary tables

mfxtrim *Table Summarizing*

Description

Table Summarizing

Usage

```
mfxtrim(testlist, rnames, stat = "Std. Error")
```

Arguments

testlist	list of lmtest::coeftest objects
stat	which statistic to retrieve
varnames	names of variable names

Value

list of summary tables

polygon_add *Polygon Plot*

Description

Polygon Plot

Usage

```
polygon_add(X, ci_lu, col = rgb(0, 0, 0, 0.25), bcol = NA)

polygon_format(X, ci_lu)
```

Arguments

X	X matrix from polygon_ci
ci_lu	matrix from polygon_ci
col, bcol	color objects

Value

plots polygon

polygon_ci *Polygon Plot*

Description

Polygon Plot

Usage

```
polygon_ci(reg, xname, ...)
```

Arguments

reg	output from lm() or loess()
xname	name of RHS of regression formula
...	passed to predict()
level	confidence levels

Value

list with matrix of lower,upper confidence intervals and X variable

polygon_plot *Plot the polygon*

Description

Plot the polygon

Usage

```
polygon_plot(reg, xname, xlb = "X", ylb = "Y", xlm = NULL, ylm = NULL,
  ttl = NULL, off = FALSE, ...)
```

Arguments

reg	lm object
xname	name of xvariable of interest
level	confidence interval range

Value

plots polygon

root *Formatting Inputs to Unit Root*

Description

Formatting Inputs to Unit Root

Usage

```
root(MFX, mfxn1 = "HHI", mfxn2 = "HHI^2", min0 = 0, max1 = 1)
```

Arguments

MFX	matrix of coefficients
mfxn1, mfxn2	variable names (rows)
min0	minimum of possible values
max1	maximum of possible values

Details

each column of MFX should provide a different set of estimates

Value

datatable

scatboot *M out of N Bootstrapped Loess Confidence Intervals*

Description

M out of N Bootstrapped Loess Confidence Intervals

Usage

```
scatboot(x, y, breps = 100, mfun = function(m) {     m^(0.9) },
  confidence = 0.9, family = "gaussian", degree = 2, span = 2/3)
```

Arguments

x, y	coordinates
breps	number of bootstrap replications
mfun	function to define m out of n subsample
confidence	CI interval
degree, span, family	loess parameters

Details

see "http://content.csbs.utah.edu/~rogers/datanal/R/scatboot.r"

Value

list of loess outputs

`scatter_gram` *Scatter Plot with Histograms*

Description

Scatter Plot with Histograms

Usage

```
scatter_gram(X, Y, XBINS = NULL, xbin_scale = function(x) {     x * 2 + 0.5
  }, xbks = "Sturges", ybks = "Sturges", col = rgb(0, 0, 0, 0.5),
  xlb = "X", ylb = "Y", xrange = NA, yrange = NA, ttl = NULL)
```

Arguments

`X`	vector of values
`Y`	vector of values
`XBINS`	bin the X,Y for plotting
`xbin_scale`	how to scale XBINS
`xbks, ybks`	how to make histograms
`col`	color of the plot
`xlb, ylb`	axis lables
`ttl`	plot title

Value

plots polygon

Examples

```
scatter_gram(1:100, runif(100))
```

spaghetti_lines *Plot Spaghetti Lines*

Description

Plot Spaghetti Lines

Usage

```
spaghetti_lines(YList, Xlist, plot_col = "#00000080", lwd = 0.5, ...)
```

Arguments

YList, Xlist	output from PrettyR::spag_loess
plot_col	col in lines()
lwd, ...	passed to lines()

Details

a loess line for each list element

Value

nothing

spaghetti_mean *Plot Average of Spaghetti Lines*

Description

Plot Average of Spaghetti Lines

Usage

```
spaghetti_mean(YList, Xlist, plot_col = 1, lwd = 2, ...)
```

Arguments

YList, Xlist	output from PrettyR::spag_loess
plot_col, lwd	passed to lines()
...	passed to lines()

spaghetti_plot *Spaghetti Plot, a loess line for each list element*

Description

Spaghetti Plot, a loess line for each list element

Usage

```
spaghetti_plot(LoList, pdfname, xlb = "X", ylb = "Y", ttl = NULL,
  xln = 3, yln = 3, xlm = NULL, ylm = NULL, plot_col = rgb(0, 0, 0,
  0.5), meanline = FALSE, ...)
```

Arguments

LoList	output from PrettyR::spag_loess
pdfname	full name of pdf
xlb, ylb, ttl	axis names
xln, yln	axis lines
xlm, ylm	axis limits
plot_col	color of spaghetti lines
meanline	draw the mean of the spaghettis
...	passed to spaghetti_lines

Details

seealso http://www.ats.ucla.edu/stat/r/faq/spagplot.htm

stargazerJ *Table Formatting*

Description

Table Formatting

Usage

```
stargazerJ(Xmat, ..., new.align = NULL, new.title = NULL,
  new.metatitle = NULL, new.tail = NULL, tab.out = NULL,
  new.notes = NULL, pb.tw = 1, new.omit = NULL, out = NULL,
  column.sep.width = "0pt", new.digits = 2, new.digits.extra = 5,
  new.table.placement = "H", new.other = TRUE, new.parbox = NULL)
```

Arguments

Xmat	object from matJ
out	NULL
new.parbox	

Details

See also matJ

Value

datatable

Examples

```
MATRIX <- data.frame( diag(4) )
NOTES <- paste0("NOTE", LETTERS, collapse=" ")
new.align <- "l cc @{\\\\hspace{18pt}} cc"
TITLE <- paste0( "& \\\\multicolumn{2}{c}{MEOW}",
   "&\\\\multicolumn{2}{c}{MIX}  \\\\\\\\",
   "& Estimate & SE & Estimate & SE")
C3     <- paste0( " Controls &", " G$\&$P & & G$\&$P & ", " \\\\ ")
C4     <- paste0( " F.E. &", " C$\&$T & & C$\&$T & ", " \\\\ ")

stargazerJ( MATRIX,
   title="Meow Mix Table",
   label="tab:meowmix",
   column.sep.width="-4pt",
   new.notes=NOTES,
   pb.tw=.7,
   new.tail=c(C3, C4),
   new.title=TITLE,
   new.align=new.align)
```

`stargazerJlist` *Table Formatting for Lists*

Description

Table Formatting for Lists

Usage

```
stargazerJlist(Xlist, ..., new.align = NULL, new.title = NULL,
  new.metatitle = NULL, new.tail = NULL, tab.out = NULL,
  new.notes = NULL, pb.tw = 1, new.omit = NULL, out = NULL,
  column.sep.width = "0pt", new.digits = 2, new.digits.extra = 5,
  new.table.placement = "H", new.other = TRUE, new.parbox = NULL)
```

Details

different handling in part ## Xmat and Table dimensions

`Ttest2` *Welchs t-test*

Description

Welchs t-test

Welchs t-test, variant3

Usage

```
Ttest2(m1, m2, s1, s2, n1, n2, side = 2, m0 = 0)

Ttest3(m1, m2, s1, s2, n1, n2, m0 = 0, equal.variance = FALSE)
```

Arguments

`m1, m2`	the sample means
`s1, s2`	the sample standard errors
`n1, n2`	the sample sizes
`side`	upper, lower, or 2sided
`m0`	the null value for the difference in means to be tested for. Default is 0.

Value

a summary of the T-test

Examples

```
n1 <- 100
x1 <- 1:n1
y1 <- 3*x1+ rnorm(n1, 0, 50)
lm1 <- summary( lm( y1~x1) )
coefs1 <- coef(lm1)[2,1:2]
n2 <- 200
x2 <- 1:n2
y2 <- 2*x2 + rnorm(n2, 0, 50)
lm2 <- summary( lm( y2~x2) )
coefs2 <- coef(lm2)[2,1:2]
Ttest2( coefs1[1], coefs2[1], coefs1[2], coefs2[2], n1, n2  )
```

UROOT *Formatting Inputs to Unit Root*

Description

Formatting Inputs to Unit Root

Usage

```
UROOT(x, b1, b2, ...)
```

Arguments

x	sequence
b1, b2	coefficients

Value

a vector

Wstat *Welchs T-test for a Y variable calculated from a window on each side of x0*

Description

Welchs T-test for a Y variable calculated from a window on each side of x0

Usage

```
Wstat(wind, dframe, x0, yvar, xvar, corr = 0, ...)
```

Arguments

wind	fraction (percent of data to include)
dframe	data to cut
x0	
xvar	

Value

list of loess outputs

Index