

Package ‘PrettyR’

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Title PrettyR

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Description Functions to make pretty graphs and tables.

Depends R (>= 3.4.1)

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Encoding UTF-8

LazyData true

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Imports utils,
stargazer,
parallel

Suggests formattable

R topics documented:

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| | |
|----------|--|
| bin_mode | <i>Take the Mode of Data after Binning</i> |
|----------|--|

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 | <i>Custom confidence intervals</i> |
|-------|------------------------------------|

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

| | |
|------------|--|
| loess_list | <i>Run Multiple Loess for Spaghetti Plot</i> |
|------------|--|

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 | <i>Convert Matrix for stargazerJ</i> |
|------|--------------------------------------|

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 | <i>Formatting</i> |
|-----|-------------------|

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

| | |
|--------------------|-------------------------------|
| <code>formi</code> | regression formula |
| <code>datai</code> | data for regression |
| <code>vcv</code> | type of covariance correction |

Value

summary table

`mfxlist2vec`*Table Formatting*

Description

Table Formatting

Usage

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

Arguments

| | |
|-----------------------|---------------------------------|
| <code>trimlist</code> | object from mfxtrim |
| <code>nvar</code> | number of variables of interest |

Value

list of formatted summary tables

| | |
|----------|--------------------------|
| mfxttrim | <i>Table Summarizing</i> |
|----------|--------------------------|

Description

Table Summarizing

Usage

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

Arguments

| | |
|----------|---------------------------------|
| testlist | list of lmtest::coefest objects |
| stat | which statistic to retrieve |
| varnames | names of variable names |

Value

list of summary tables

| | |
|-------------|---------------------|
| polygon_add | <i>Polygon Plot</i> |
|-------------|---------------------|

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

| | |
|--------------------|---|
| <code>reg</code> | output from <code>lm()</code> or <code>loess()</code> |
| <code>xname</code> | name of RHS of regression formula |
| <code>...</code> | passed to <code>predict()</code> |
| <code>level</code> | 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

| | |
|--------------------|-------------------------------|
| <code>reg</code> | lm object |
| <code>xname</code> | name of xvariable of interest |
| <code>level</code> | confidence interval range |

Value

plots polygon

| | |
|------|---------------------------------------|
| root | <i>Formatting Inputs to Unit Root</i> |
|------|---------------------------------------|

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 | <i>M out of N Bootstrapped Loess Confidence Intervals</i> |
|----------|---|

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 | <i>Scatter Plot with Histograms</i> |
|--------------|-------------------------------------|

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 | <i>Plot Spaghetti Lines</i> |
|-----------------|-----------------------------|

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 | <i>Plot Average of Spaghetti Lines</i> |
|----------------|--|

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 | <i>Spaghetti Plot, a loess line for each list element</i> |
|----------------|---|

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 | <i>Table Formatting</i> |
|------------|-------------------------|

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 | <i>Welchs t-test</i> |
|--------|----------------------|

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 )
```

| | |
|-------|---------------------------------------|
| UR00T | <i>Formatting Inputs to Unit Root</i> |
|-------|---------------------------------------|

Description

Formatting Inputs to Unit Root

Usage

UR00T(x, b1, b2, ...)

Arguments

| | |
|--------|--------------|
| x | sequence |
| b1, b2 | coefficients |

Value

a vector

| | |
|-------|---|
| Wstat | <i>Welchs T-test for a Y variable calculated from a window on each side of x0</i> |
|-------|---|

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

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