Package ‘gfunctions’

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Description Modified versions of the lag() and summary() functions: glag() and gsummary(). The prefix 'g' is a reminder of who to blame if things do not work as they should.

License GPL (>= 2)

Depends R (>= 3.0.0), zoo, sandwich

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gfunctions-package — glag() *and* gsummary()*: Modified versions of* lag() *and* summary()

Description

glag() and gsummary() are modifications of the lag() and summary() functions from the **stats** package in that they return different information.

Details

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Licence:	GPL-2

Author(s)

Genaro Sucarrat: https://www.sucarrat.net/

Maintainer: Genaro Sucarrat

See Also

lag(), summary()

glag — *Lag a vector or a matrix, with special treatment of* zoo *and* ts *objects*

Description

The glag() function is similar to the lag() function from the **stats** package, but glag() actually *lags* (the default in lag() is to lead). The funtion glag() also enables padding (for example NAs or 0s) of the lost entries. Contrary to the lag() function, however, the default in glag() is to pad (with NAs). The glag() is particularly suited for zoo objects, since their indexing is retained. The prefix g is a reminder of who to blame if things do not work properly.

Usage

```
## generic:
glag(x, ...)
## Default S3 method:
glag(x, k = 1, pad = TRUE, pad.value = NA, ...)
```

Arguments

`x`	a numeric vector or matrix, or objects of class `zoo` or `ts`.
`k`	integer equal to the lag (the default is 1). Negative values (that is, 'leading') is not possible.
`pad`	logical. If `TRUE` (default), then the lost entries are padded with `pad.value`. If `FALSE`, then no padding is undertaken.
`pad.value`	the padding value.
`...`	additional arguments

Value

A vector or matrix, or objects of class `zoo` or `ts`, with the lagged values.

Author(s)

Genaro Sucarrat, `https://www.sucarrat.net/`

See Also

`lag()`, `lag.zoo()`

Examples

```
##generate some data:
x <- rnorm(5)

##lag series with NAs on missing entries:
glag(x)

##lag series with no padding:
x <- rnorm(5)
glag(x, pad = FALSE)

##lag series and retain the original zoo-index ordering:
x <- as.zoo(rnorm(5))
glag(x)

##lag two periods:
glag(x, k = 2)
```

gsummary *The gsummary() function*

Description

The gsummary() function provides an alternative to the summary() function by returning different information. The prefix g is a reminder of who to blame if things do not work properly.

Usage

```
## generic:
gsummary(object, ...)
## Default S3 method:
gsummary(object, ...)
## S3 method for class 'data.frame'
gsummary(object, ...)
## S3 method for class 'lm'
gsummary(object, vcov.type = c("ordinary", "robust", "hac"), confint.level = 0.95, ...)
## S3 method for class 'glm'
gsummary(object, confint.level = 0.95, ...)
```

Arguments

object	an object of suitable class, for example data.frame, lm or glm.
vcov.type	a character string that determines the variance-vcovariance estimator. If "ordinary" (default), then the ordinary estimator is used (vcov.lm()). If "robust", then the heteroscedasticity robust estimator of White (1980) (vcovHC() with type = "HC") is used. If "hac", then the heteroscedasticity and autocorrelation robust estimator of Newey and West (1987) (NeweyWest()) is used.
confint.level	a number between 0 and 1 (the default is 0.95), or NULL. If a number, then confidence intervals are printed (the default is 95 percent). If NULL, then confidence intervals are not printed.
...	additional arguments

Value

No value is returned, the function only prints. The content of the print depends on the class of its main argument object.

Author(s)

Genaro Sucarrat, https://www.sucarrat.net/

References

Halbert White (1980): 'A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity', Econometrica 48, pp. 817-838.
Whitney K. Newey and Kenned D. West (1987): 'A Simple, Positive Semi-Definite, Heteroskedasticity and Autocorrelation Consistent Covariance Matrix', Econometrica 55, pp. 703-708.

See Also

`summary()`

Examples

```
##simulate some data, store them in y, x and z:
set.seed(123)
y <- rnorm(20); x <- rnorm(20); z <- rnorm(20)

##illustrate gsummary.data.frame():
mydataframe <- as.data.frame(cbind(y,x,z))
gsummary(mydataframe)

##illustrate gsummary.lm():
mymodel <- lm(y ~ x + z)
gsummary(mymodel)
gsummary(mymodel, vcov.type="robust")
gsummary(mymodel, vcov.type="hac")
gsummary(mymodel, confint.level=0.90)
gsummary(mymodel, confint.level=0.99)
gsummary(mymodel, confint.level=NULL)

##illustrate gsummary.glm():
y <- as.numeric( y > 0 )
mymodel <- glm(y ~ x + z, family=binomial)
gsummary(mymodel)
```

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