

Package ‘LR’

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Type Package

Title Package for Linear Regression

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Description Carry out linear regression and conduct basic hypothesis testing.

License GPL-3

Encoding UTF-8

LazyData true

Suggests knitr,
rmarkdown,
testthat (>= 3.0.0)

Config/testthat/edition 3

VignetteBuilder knitr

RoxygenNote 7.2.1

Depends R (>= 2.10)

Imports bench,
car,
ggplot2,
Rcpp

LinkingTo Rcpp, RcppArmadillo

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 lr

Fitting Linear Regression Models

Description

'lr()' serves the purpose of fitting linear regression models. It can be used for linear regression, determination of confidence intervals for relevant parameters, computation of R^2 , and facilitation of the F Test.

Usage

```
lr(Y, X, CI = TRUE, CI.level = 0.95, Rcpp = FALSE)
```

Arguments

Y	a numeric vector, treated as outcome.
X	a numerical matrix, treated as predictors.
CI.level	a numeric number specifying the alpha-level when calculate CIs of betas (0.95 by default). Only use when "CI.beta = TRUE"
Rcpp,	"FALSE" by default. If "TRUE", the function will use cpp code to speed up the computation.
CI.beta	logical, "TRUE" by default. If "TRUE", the results will output the confidence interval of betas.

Value

A list contains statistics from the regression model

Examples

```
# fit a regression model
lr(state.x77[, 4], state.x77[, c(1:3)], Rcpp = F)
```

 state.x77

Example Data: state.x77

Description

state.x77 related to the 50 states of the United States of America.

Usage

```
state.x77
```

Format

A dataframe with 50 rows and 8 numerical columns giving the following statistics in the respective columns.

Population: population estimate as of July 1,1975

Income: per capita income (1974)

Illiteracy: illiteracy (1970, percent of population)

Life Exp: life expectancy in years (1969–71)

Murder: murder and non-negligent manslaughter rate per 100,000 population (1976)

HS Grad: percent high-school graduates (1970)

Frost: mean number of days with minimum temperature below freezing (1931–1960) in capital or large city

Area: land area in square miles

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