Package 'betas'

August 29, 2016

Title Standardized Beta Coefficients

Version 0.1.1

Description Computes standardized beta coefficients and corresponding
standard errors for the following models:
linear regression models with numerical covariates only,
linear regression models with numerical and factorial covariates,
weighted linear regression models,
all these linear regression models with interaction terms, and
robust linear regression models with numerical covariates only.

Depends R (>= 3.1.1)

Imports robust

License GPL-3

LazyData true

URL https://github.com/andreaphsz/betas

BugReports https://github.com/andreaphsz/betas/issues

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NeedsCompilation no

Repository CRAN

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R topics documented:

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betas.lm   *Compute standardized beta coeffizients for linear regression models*

Description

Compute standardized beta coeffizients for linear regression models

Usage

```
betas.lm(MOD)
```

Arguments

MOD   A model of class `lm`.

Value

A data.frame with two columns

beta	standardized beta coefficients
se.beta	standard errors for the beta coefficients

Examples

```
data <- pisa2012che

## linear regression models with numerical covariates only
fit1 <- lm(MATH ~ ESCS + USEMATH, data)
betas.lm(fit1)

## ...and with interaction terms
fit1.1 <- lm(MATH ~ ESCS * USEMATH, data)
betas.lm(fit1.1)

## linear regression models with numerical and factorial covariates
fit2 <- lm(MATH ~ ESCS + USEMATH + ST04Q01 + FAMSTRUC + ST28Q01, data)
betas.lm(fit2)

## ...and with interaction terms
fit2.1 <- lm(MATH ~ ESCS + USEMATH + ST04Q01 + FAMSTRUC * ST28Q01, data)
betas.lm(fit2.1)

## weighted linear regression models
fit3 <- lm(MATH ~ ESCS + USEMATH, data, weights = W_FSTUWT)
betas.lm(fit3)

fit4 <- lm(MATH ~ ESCS + USEMATH + ST04Q01 + FAMSTRUC + ST28Q01, data, weights = W_FSTUWT)
betas.lm(fit4)
```

```
## ...with interaction terms
fit3.1 <- lm(MATH ~ ESCS * USEMATH, data, weights = W_FSTUWT)
betas.lm(fit3.1)

fit4.1 <- lm(MATH ~ ESCS + USEMATH + ST04Q01 + FAMSTRUC * ST28Q01, data, weights = W_FSTUWT)
betas.lm(fit4.1)
```

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betas.lmr	*Compute standardized beta coeffizients for robust linear regression models*

Description

Compute standardized beta coeffizients for robust linear regression models

Usage

```
betas.lmr(object, classic = FALSE)
```

Arguments

object   A model of class lmRob.

classic   Logical TRUE for classic covariance estimation.

Value

Vector with standardized beta coefficients.

Examples

```
library(robust)
data <- pisa2012che

## robust estimation of betas
fit1 <- lmRob(MATH ~ ESCS, data)
betas.lmr(fit1)

## example where robust variance cannot be computed,
## instead the classical variance is used.
fit2 <- lmRob(MATH ~ ESCS + USEMATH, data)
betas.lmr(fit2)
```

pisa2012che *Subset of the PISA 2012 students data set.*

Description

A data set containing Math scores and some covariates and weights for students from Switzerland.

Usage

```
pisa2012che
```

Format

A data frame with 100 rows and 8 variables:

MATH Mean score in mathematics

ESCS Index of economic, social and cultural status

ST04Q01 Gender

FAMSTRUC Family Structure

ST28Q01 How many books at home

IC08Q01 One player games

USEMATH Use of ICT in Mathematic Lessons

W_FSTUWT FINAL STUDENT WEIGHT

Source

http://pisa2012.acer.edu.au/downloads.php

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