Package 'actools'

June 2, 2019

Title Tools for actuarial science

Version 1.0.0

Description A collection of tools for actuarial science.

Depends R (>= 3.5.0)

License GPL(>= 3)

Encoding UTF-8

LazyData true

Type Package

Date 2019-06-02

Imports stats, magrittr, dplyr, tibble, tidyr

Author Michael Mayer [aut, cre, cph]

Maintainer Michael Mayer <mayermichael79@gmail.com>

RoxygenNote 6.1.1

NeedsCompilation no

R topics documented:

`coefTables` *From lm object, extract nice coefficient tables*

Description

Turns an lm object fitted on factors (with or without interactions) into coefficient tables.

Usage

```
coefTables(object, rebase = FALSE)
```

Arguments

object	An object of class lm.
rebase	Logical flag indicating if the coefficient tables (and intercept) should be rebased so that reference levels of factors are associated with coefficients 0.

Value

`list` of coefficient tables in long form.

Examples

```
CO2[["conc"]] <- factor(CO2[["conc"]])
fit <- lm(uptake ~ Type + Type:Treatment:conc, data = CO2)
coefTables(fit)
coefTables(fit, rebase = TRUE)
```

---

mae *Calculates mean absolute error*

Description

Calculates mean absolute error from observed and predicted values.

Usage

```
mae(y, pred)
```

Arguments

y	Vector of observed values.
pred	Vector of predicted values.

Value

A numeric vector of length one.

Examples

```
mae(1:10, 2:11)
```

perf *Calculates different performance measures*

Description

Calculates mean absolute error as well as certain proportions of predictions near observed values.

Usage

```
perf(y, pred, lab = "perf", q = c(0.01, 0.02, 0.05, 0.1))
```

Arguments

y	Vector of observed values.
pred	Vector of predicted values.
lab	Label of the returned row.
q	Vector of values forming the range.

Value

A data.frame with one row.

Examples

```
perf(1:10, (1:10)^2, q = c(1, 5, 100))
```

predict.coefTable *Predicted values based on* coefTable *object.*

Description

Takes a data frame and replaces randomly part of the values by missing values.

Usage

```
## S3 method for class 'coefTable'
predict(object, newdata, trafo = I, ...)
```

Arguments

object	Object of class coefTable.
newdata	New data.
trafo	Transformation to be applied to resulting predictions, e.g. exp.
...	Further arguments passed to trafo.

Value

Vector of predictions.

Examples

```
CO2[["conc"]] <- factor(CO2[["conc"]])
fit <- lm(uptake ~ Type:Treatment + conc:Treatment + Type:conc, data = CO2)
coefT <- coefTables(fit, rebase = TRUE)
predict(fit, head(CO2))
predict(coefT, head(CO2))
```

`propWithin` *Calculates proportion of predictions within range of observed values*

Description

Calculates proportion of predictions within range of observed values.

Usage

```
propWithin(y, pred, q = c(0.01, 0.02, 0.05, 0.1))
```

Arguments

`y`	Vector of observed values.
`pred`	Vector of predicted values.
`q`	Vector of values forming the range.

Value

A numeric vector of the same length as q.

Examples

```
propWithin(1:10, (1:10)^2, q = c(1, 5, 100))
```

`rmse` *Calculates root mean squared error of prediction*

Description

Calculates root mean squared error from observed and predicted values.

Usage

```
rmse(y, pred)
```

Arguments

`y`	Vector of observed values.
`pred`	Vector of predicted values.

Value

A numeric vector of length one.

Examples

```
rmse(1:10, 2:11)
```

Index