Package: rcistats (via r-universe)

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Title R Tools for CSU Channel Islands

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Description An R package containing functions for statistics courses at CSUCI.

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Contents

`ar2` *Obtain the adjusted R-Squared Value from a Linear Model*

Description

Obtain the adjusted R-Squared Value from a Linear Model

Usage

```
ar2(object)
```

Arguments

`object`	An R object that is a ‘formula‘ or contains the results of the ‘lm‘ function.

b *Extract regression coefficients from a linear regression model.*

Description

The regression coefficients demonstrates how a set of predictor variables will affect the outcome of interest.

Usage

```
b(object, index = NULL, data = NULL)
```

Arguments

object	An R object that is a formula or contains the results of the ‘lm‘ function.
index	Index indicating which coefficients to obtain.
data	A data frame when the object is a formula.

bottom *Obtain the Bottom X Percents*

Description

Obtain the Bottom X Percents

Usage

```
bottom(x, probs)
```

Arguments

x	Vector
probs	Probability

cat_stats *Obtain Frequencies and Proportions for a Categorical Variable*

Description

Obtain Frequencies and Proportions for a Categorical Variable

Usage

```
cat_stats(x, y = NULL, prop = "all", tbl_df = FALSE, digits = 4)
```

Arguments

x	Vector
y	Vector for Cross-tabulations.
prop	Character indicating what type of proportions to provide. Defaults to "all".
tbl_df	Logical indicating if you need a df for a single variable for a pie chart or other things.
digits	number of decimal places to round

descriptive *Obtain Descriptive Statistics from a data frame.*

Description

Obtain Descriptive Statistics from a data frame.

Usage

```
descriptive(df)
```

Arguments

df	An R data frame used for further analysis.

f *Extract the F Statistic*

Description

Extract the F Statistic

Usage

```
f(object)
```

Arguments

object	An R object that is a ‘formula‘ or contains the results of the ‘lm‘ function.

geom_pie *A function that creates a pie chart.*

Description

A function that creates a pie chart.

Usage

```
geom_pie(mapping = NULL, data = NULL, position = "stack", ..., width = 1)
```

Arguments

mapping	Aesthetics created by aes().
data	The data used to create the plot.
position	Set to "stack" for the pie chart.
...	A set of arguments passed down to geom_bar().
width	Set to 1 for the pie chart.

Value

A ggplot from the displays the pie chart.

install_m201 *Install R packages used for Math 201*

Description

Install R packages used for Math 201

Usage

```
install_m201()
```

install_plots *Install ggplots and other plotting packages*

Description

Install ggplots and other plotting packages

Usage

```
install_plots()
```

install_themes *Install Themes*

Description

Install Themes

Usage

```
install_themes()
```

iterate *Repeat a task numerous times*

Description

Repeat a task numerous times

Usage

```
iterate(expr, sim)
```

Arguments

expr	Expression to be evaluated multiple times.
sim	The number of times to evaluate an the expression.

linear_model_info *Extract model information for linear regression.*

Description

Extract model information for linear regression.

Usage

```
linear_model_info(model)
```

Arguments

model	An R object that results from a linear regression model.

Value

A message model information.

logistic_model_info *Extract model information for logistic regression*

Description

Extract model information for logistic regression

Usage

```
logistic_model_info(model)
```

Arguments

model	An R object that results from a logistic regression model (glm class).

Value

A message indicating which category is being modeled as success from the logistic regression model.

middle *Obtain the middle X Percent*

Description

Obtain the middle X Percent

Usage

```
middle(x, probs)
```

Arguments

x	Vector
probs	Probability

`model_info` *Extract model information*

Description

Extract model information

Usage

```
model_info(model)
```

Arguments

`model`	An R object that results from a logistic regression model (glm class).

Value

A message indicating which category is being modeled as success from the logistic regression model.

`num_by_cat_stats` *Obtain Numerical Statistics for a Continuous Variable by a Categorical Variable*

Description

Obtain Numerical Statistics for a Continuous Variable by a Categorical Variable

Usage

```
num_by_cat_stats(df, num, cat)
```

Arguments

`df`	An R data frame used for further analysis.
`num`	Name of the numerical variable found in the data frame
`cat`	Name of the categorical variable found in the data frame

num_stats *Obtain Numerical Statistics for a Continuous Variable*

Description

Obtain Numerical Statistics for a Continuous Variable

Usage

```
num_stats(x, tbl = TRUE, digits = 3)
```

Arguments

x	A numerical or integer vector.
tbl	A logical indicating whether to return a tibble or not, defaults to TRUE.
digits	number of decimal places to round

props *props Computing proportions*

Description

Compute the proportions of observing a value from a 2 by 2 continguency table

Usage

```
props(x, y, yval, diff = FALSE)
```

Arguments

x	grouping variable
y	outcome of interest
yval	category of interest from outcome of interest
diff	Obtain the difference in proportions. Default is FALSE.

r2 *Obtain the R-Squared Value from a Linear Model*

Description

Obtain the R-Squared Value from a Linear Model

Usage

```
r2(object)
```

Arguments

object	An R object that is a ‘formula‘ or contains the results of the ‘lm‘ function.

resample *Sample a data frame with replacement*

Description

Sample a data frame with replacement

Usage

```
resample(df)
```

Arguments

df	Data frame to be sampled with replacement

resid_df *Extract Residuals and Influential Measures from ‘glm‘ and ‘lm‘ object*

Description

Extract Residuals and Influential Measures from ‘glm‘ and ‘lm‘ object

Usage

```
resid_df(object)
```

Arguments

object	An R object that contains the results of the ‘lm‘ or ‘glm‘ function.

se_b

Extract the standard errors of the regression coefficients from a linear regression model.

Description

The standard errors of the regression coefficients demonstrates the variability of the relationship between the predictor variables and the outcome of interest.

Usage

```
se_b(object, index = NULL, data = NULL)
```

Arguments

object	An R object that is a formula or contains the results of the ‘lm‘ function.
index	Index indicating which coefficients to obtain.
data	A data frame when the object is a formula.

shuffle

Reorder the data of a vector

Description

Reorder the data of a vector

Usage

```
shuffle(x)
```

Arguments

x	A vector to be shuffle the order of the values.

sse *Compute the sum of error squared for an R object*

Description

Compute the sum of error squared for an R object

Usage

```
sse(object, data = NULL)
```

Arguments

object	An R object that is a ‘formula‘ or contains the results of the ‘lm‘ function.
data	A data frame when the object is a formula.

top *Obtain the top X Percent*

Description

Obtain the top X Percent

Usage

```
top(x, probs)
```

Arguments

x	Vector
probs	Probability

unicorns *Creates a Unicorn Data Set from simulated models.*

Description

Creates a Unicorn Data Set from simulated models.

Usage

```
unicorns(n)
```

Arguments

n	Number of unicorns used

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