

Package: csucistats (via r-universe)

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Type Package

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

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URL <https://www.inqs.info/csucistats/>

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ar2	<i>Obtain the adjusted R-Squared Value from a Linear Model</i>
-----	--

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	<i>Extract regression coefficients from a linear regression model.</i>
---	--

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	<i>Obtain the Bottom X Percents</i>
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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", df = FALSE, 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".
df	Logical indicating to provide a tibble for cross tabulations with table proportions.
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	<i>Extract the F Statistic</i>
---	--------------------------------

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.

install_m201	<i>Install R packages used for Math 201</i>
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Description

Install R packages used for Math 201

Usage

install_m201()

install_plots	<i>Install ggplots and other plotting packages</i>
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Description

Install ggplots and other plotting packages

Usage

install_plots()

install_themes	<i>Install Themes</i>
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Description

Install Themes

Usage

```
install_themes()
```

iterate	<i>Repeat a task numerous times</i>
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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	<i>Extract model information for linear regression.</i>
-------------------	---

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	<i>Extract model information for logistic regression</i>
---------------------	--

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	<i>Obtain the middle X Percent</i>
--------	------------------------------------

Description

Obtain the middle X Percent

Usage

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

Arguments

x	Vector
probs	Probability

num_by_cat_stats	<i>Obtain Numerical Statistics for a Continuous Variable by a Categorical Variable</i>
------------------	--

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	<i>Obtain Numerical Statistics for a Continuous Variable</i>
-----------	--

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	<i>props Computing proportions</i>
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Description

Compute the proportions of observing a value from a 2 by 2 contingency 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	<i>Obtain the R-Squared Value from a Linear Model</i>
----	---

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	<i>Sample a data frame with replacement</i>
----------	---

Description

Sample a data frame with replacement

Usage

```
resample(df)
```

Arguments

df	Data frame to be sampled with replacement
----	---

resid_df	<i>Extract Residuals and Influential Measures from 'glm' and 'lm' object</i>
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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	<i>Extract the standard errors of the regression coefficients from a linear regression model.</i>
------	---

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	<i>Reorder the data of a vector</i>
---------	-------------------------------------

Description

Reorder the data of a vector

Usage

```
shuffle(x)
```

Arguments

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

sse	<i>Compute the sum of error squared for an R object</i>
-----	---

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	<i>Obtain the top X Percent</i>
-----	---------------------------------

Description

Obtain the top X Percent

Usage

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

Arguments

x	Vector
probs	Probability

 unicorn_data

Unicorn Data

Description

A simulated dataset about unicorns used for teaching purposes.

Usage

unicorn_data

Format

A data frame with 750 rows and 15 variables:

Unicorn_ID A unique id number

Age age in years

Gender The gender of the unicorn (Female, Male, Non-Binary, Genderfluid, Agender)

Color Color (White, Black, Gray, Brown, Pink, Gold, Silver)

Type_of_Unicorn What type of unicorn is it? (Rainbow, Jewel, Ember, Ruvas)

Type_of_Horn What type of horn is it? (Opal or Aquamarine)

Horn_Length Length of the horn (inches)

Horn_Strength Strength of the Horn (pascals)

Weight Weight in pounds

Health_Score Unicorn's overall health (1-10)

Personality_Score How Personal is the unicorn?

Magical_Score How magical is the unicorn?

Elusiveness_Score How elusive is the unicorn?

Gentleness_Score How gentle is the unicorn?

Nature_Score How connected to nature is the unicorn?

Source

csucistats csucistats R package.

unicorns	<i>Creates a Unicorn Data Set from simulated models.</i>
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Description

Creates a Unicorn Data Set from simulated models.

Usage

```
unicorns(n)
```

Arguments

n	Number of unicorns used
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