Package 'radiant.basics'

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Title Basics Menu for Radiant: Business Analytics using R and Shiny
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Description The Radiant Basics menu includes interfaces for probability calculation, central limit theorem simulation, comparing means and proportions, goodness-of-fit testing, cross-tabs, and correlation. The application extends the functionality in radiant.data.
Depends R (>= 3.3.0), radiant.data (>= 0.9.2)
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<pre>URL https://github.com/radiant-rstats/radiant.basics, https: //radiant-rstats.github.io/docs</pre>
BugReports https://github.com/radiant-rstats/radiant.basics/issues License AGPL-3 file LICENSE
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R topics documented:
clt

correlation	6
cross_tabs	7
lemand_uk	8
goodness	8
newspaper	9
olot.clt	9
olot.compare_means	10
olot.compare_props	11
plot.correlation	12
blot.cross_tabs	12
blot.goodness	13
olot.prob_binom	14
olot.prob_chisq	15
olot.prob_disc	15
olot.prob_expo	16
olot.prob_fdist	16
blot.prob_lnorm	17
blot.prob_norm	17
	18
olot.prob_tdist	18
blot.prob_unif	19
olot.single_mean	19
olot.single_prop	20
orint.correlation	21
prob_binom	
orob_chisq	22
prob_disc	22
prob_expo	23
prob_fdist	23
prob_lnorm	24
orob_norm	24
prob_pois	25
prob_tdist	25
prob_unif	26
adiant.basics	27
adiant.basics_viewer	27
	28
radiant.basics_window	28
salary	
single_mean	29
single_prop	30
summary.compare_means	31
summary.compare_props	31
summary.correlation	32
summary.cross_tabs	33
summary.goodness	34
summary.prob_binom	35
summary.prob_chisq	35
summary.prob_disc	36
summary.prob_expo	36
summary.prob_fdist	37
summary.prob_lnorm	37
summary.prob_norm	38

2

clt 3

Index		42
	summary.single_prop	40
	summary.single_mean	40
	summary.prob_unif	39
	summary.prob_tdist	39
	summary.prob_pois	38

clt

Central Limit Theorem simulation

Description

Central Limit Theorem simulation

Usage

```
clt(dist, n = 100, m = 100, norm_mean = 0, norm_sd = 1,
  binom_size = 10, binom_prob = 0.2, unif_min = 0, unif_max = 1,
  expo_rate = 1)
```

Arguments

dist	Distribution to simulate
n	Sample size
m	Number of samples
norm_mean	Mean for the normal distribution
norm_sd	Standard deviation for the normal distribution
binom_size	Size for the binomial distribution
binom_prob	Probability for the binomial distribution
unif_min	Minimum for the uniform distribution
unif_max	Maximum for the uniform distribution
expo_rate	Rate for the exponential distribution

Details

See https://radiant-rstats.github.io/docs/basics/clt.html for an example in Radiant

4 compare_means

compare_means Compare means for two or more variables	compare_means	Compare means for two or more variables	
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Description

Compare means for two or more variables

Usage

```
compare_means(dataset, var1, var2, samples = "independent",
  alternative = "two.sided", conf_lev = 0.95, comb = "",
  adjust = "none", test = "t", data_filter = "")
```

Arguments

Samenes	
dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r _data list from Radiant
var1	A numeric variable or factor selected for comparison
var2	One or more numeric variables for comparison. If var1 is a factor only one variable can be selected and the mean of this variable is compared across (factor) levels of va1r
samples	Are samples independent ("independent") or not ("paired")
alternative	The alternative hypothesis ("two.sided", "greater" or "less")
conf_lev	Span of the confidence interval
comb	Combinations to evaluate
adjust	Adjustment for multiple comparisons ("none" or "bonf" for Bonferroni)
test	t-test ("t") or Wilcox ("wilcox")

Details

data_filter

See $https://radiant-rstats.github.io/docs/basics/compare_means.html \ for \ an \ example in \ Radiant$

expression should be a string (e.g., "price > 10000")

Expression entered in, e.g., Data > View to filter the dataset in Radiant. The

Value

A list of all variables defined in the function as an object of class compare_means

See Also

```
summary.compare_means to summarize results
plot.compare_means to plot results
```

```
result <- compare_means("diamonds","cut","price")
result <- diamonds %>% compare_means("cut","price", comb = c("Fair:Good", "Premium:Ideal"))
```

compare_props 5

compare_props	Compare proportions across groups

Description

Compare proportions across groups

Usage

```
compare_props(dataset, var1, var2, levs = "", alternative = "two.sided",
  conf_lev = 0.95, comb = "", adjust = "none", data_filter = "")
```

Arguments

dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r_data list from Radiant
var1	A grouping variable to split the data for comparisons
var2	The variable to calculate proportions for
levs	The factor level selected for the proportion comparison
alternative	The alternative hypothesis ("two.sided", "greater" or "less")
conf_lev	Span of the confidence interval
comb	Combinations to evaluate
adjust	Adjustment for multiple comparisons ("none" or "bonf" for Bonferroni)
data_filter	Expression entered in, e.g., Data > View to filter the dataset in Radiant. The expression should be a string (e.g., "price > 10000")

Details

See $https://radiant-rstats.github.io/docs/basics/compare_props.html \ for \ an \ example in \ Radiant$

Value

A list of all variables defined in the function as an object of class compare_props

See Also

```
summary.compare_props to summarize results
plot.compare_props to plot results
```

```
result <- compare_props("titanic", "pclass", "survived")
result <- titanic %>% compare_props("pclass", "survived")
```

6 correlation

consider	Car brand consideration

Description

Car brand consideration

Usage

```
data(consider)
```

Format

A data frame with 1000 rows and 2 variables

Details

Survey data of consumer purchase intentions. Description provided in attr(consider, "description")

|--|

Description

Calculate correlations for two or more variables

Usage

```
correlation(dataset, vars = "", method = "pearson", data_filter = "")
```

Arguments

dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r_data list from Radiant
vars	Variables to include in the analysis. Default is all but character and factor variables with more than two unique values are removed
method	Type of correlations to calculate. Options are "pearson", "spearman", and "kendall". "pearson" is the default
data_filte	Expression entered in, e.g., Data > View to filter the dataset in Radiant. The

Details

See $\verb|https://radiant-rstats.github.io/docs/basics/correlation.html| for an example in Radiant$

expression should be a string (e.g., "price > 10000")

Value

A list with all variables defined in the function as an object of class compare_means

cross_tabs 7

See Also

```
summary.correlation to summarize results plot.correlation to plot results
```

Examples

```
result <- correlation("diamonds", c("price","carat"))
result <- correlation("diamonds", c("price","carat","table"))
result <- correlation("diamonds", "price:carat")
result <- diamonds %>% correlation("price:carat")
```

cross_tabs

Evaluate associations between categorical variables

Description

Evaluate associations between categorical variables

Usage

```
cross_tabs(dataset, var1, var2, tab = NULL, data_filter = "")
```

Arguments

dataset Dataset name (string). This can be a dataframe in the global environment or an

element in an r_data list from Radiant

var1 A categorical variable

var2 Another categorical variable

tab Table with frequencies as alternative to dataset

expression should be a string (e.g., "price > 10000")

Details

See https://radiant-rstats.github.io/docs/basics/cross_tabs.html for an example in Radiant

Value

A list of all variables used in cross_tabs as an object of class cross_tabs

See Also

```
summary.cross_tabs to summarize results
plot.cross_tabs to plot results
```

```
result <- cross_tabs("newspaper", "Income", "Newspaper")
result <- newspaper %>% cross_tabs("Income", "Newspaper")
```

8 goodness

demand_uk	Demand in the UK	
-----------	------------------	--

Description

Demand in the UK

Usage

```
data(demand_uk)
```

Format

A data frame with 1000 rows and 2 variables

Details

Survey data of consumer purchase intentions. Description provided in attr(demand_uk,"description")

goodness Evaluate if sample data for a categorical variable is consistent with a hypothesized distribution
--

Description

Evaluate if sample data for a categorical variable is consistent with a hypothesized distribution

Usage

```
goodness(dataset, var, p = NULL, tab = NULL, data_filter = "")
```

Arguments

dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r_data list from Radiant
var	A categorical variable
p	Hypothesized distribution as a number, fraction, or numeric vector. If unspecified, defaults to an even distribution
tab	Table with frequencies as alternative to dataset
data_filter	Expression entered in, e.g., Data > View to filter the dataset in Radiant. The

expression should be a string (e.g., "price > 10000")

Details

 $See \ https://radiant-rstats.github.io/docs/basics/goodness.html \ for \ an \ example \ in \ Radiant$

Value

A list of all variables used in goodness as an object of class goodness

newspaper 9

See Also

```
summary.goodness to summarize results
plot.goodness to plot results
```

Examples

```
result <- goodness("newspaper", "Income")</pre>
```

newspaper

Newspaper readership

Description

Newspaper readership

Usage

```
data(newspaper)
```

Format

A data frame with 580 rows and 2 variables

Details

Newspaper readership data for 580 consumers. Description provided in attr(newspaper,"description")

plot.clt

Plot method for the Central Limit Theorem function

Description

Plot method for the Central Limit Theorem function

Usage

```
## S3 method for class 'clt'
plot(x, stat = "sum", bins = 15, ...)
```

Arguments

Χ	Return value from clt
stat	Statistic to use (sum or mean)
bins	Number of bins to use
	further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/basics/clt.html for an example in Radiant

10 plot.compare_means

plot.compare_means

Plot method for the compare_means function

Description

Plot method for the compare_means function

Usage

```
## S3 method for class 'compare_means'
plot(x, plots = "scatter", shiny = FALSE,
    custom = FALSE, ...)
```

Arguments

x	Return value from compare_means
plots	One or more plots ("bar", "density", "box", or "scatter")
shiny	Did the function call originate inside a shiny app
custom	Logical (TRUE, FALSE) to indicate if ggplot object (or list of ggplot objects) should be returned. This opion can be used to customize plots (e.g., add a title, change x and y labels, etc.). See examples and http://docs.ggplot2.org/for options.
	further arguments passed to or from other methods

Details

See $https://radiant-rstats.github.io/docs/basics/compare_means.html \ for \ an \ example in \ Radiant$

See Also

```
compare_means to calculate results
summary.compare_means to summarize results
```

```
result <- compare_means("diamonds","cut","price")
plot(result, plots = c("bar","density"))</pre>
```

plot.compare_props 11

Description

Plot method for the compare_props function

Usage

```
## S3 method for class 'compare_props'
plot(x, plots = "bar", shiny = FALSE,
    custom = FALSE, ...)
```

Arguments

x	Return value from compare_props
plots	One or more plots of proportions ("bar" or "dodge")
shiny	Did the function call originate inside a shiny app
custom	Logical (TRUE, FALSE) to indicate if ggplot object (or list of ggplot objects) should be returned. This opion can be used to customize plots (e.g., add a title, change x and y labels, etc.). See examples and http://docs.ggplot2.org/for options.
	further arguments passed to or from other methods

Details

See $https://radiant-rstats.github.io/docs/basics/compare_props.html \ for \ an \ example in \ Radiant$

See Also

```
compare_props to calculate results
summary.compare_props to summarize results
```

```
result <- compare_props("titanic", "pclass", "survived")
plot(result, plots = c("bar","dodge"))</pre>
```

12 plot.cross_tabs

plot.correlation

Plot method for the correlation function

Description

Plot method for the correlation function

Usage

```
## S3 method for class 'correlation'
plot(x, nrobs = -1, jit = 0.3, ...)
```

Arguments

```
x Return value from correlation

nrobs Number of data points to show in scatter plots (-1 for all)

jit Level of jittering to apply to scatter plot. Default is .3. Use 0 for no jittering further arguments passed to or from other methods.
```

Details

See https://radiant-rstats.github.io/docs/basics/correlation.html for an example in Radiant

See Also

```
correlation to calculate results summary.correlation to summarize results
```

Examples

```
result <- correlation("diamonds",c("price","carat","table"))
plot(result)
diamonds %>% correlation("price:carat") %>% plot()
```

plot.cross_tabs

Plot method for the cross_tabs function

Description

Plot method for the cross_tabs function

Usage

```
## S3 method for class 'cross_tabs'
plot(x, check = "", shiny = FALSE, custom = FALSE,
    ...)
```

plot.goodness 13

Arguments

X	Return value from cross_tabs
check	Show plots for variables var1 and var2. "observed" for the observed frequencies table, "expected" for the expected frequencies table (i.e., frequencies that would be expected if the null hypothesis holds), "chi_sq" for the contribution to the overall chi-squared statistic for each cell (i.e., (o - e)^2 / e), "dev_std" for the standardized differences between the observed and expected frequencies (i.e., (o - e) / sqrt(e)), and "row_perc", "col_perc", and "perc" for row, column, and table percentages respectively
shiny	Did the function call originate inside a shiny app
custom	Logical (TRUE, FALSE) to indicate if ggplot object (or list of ggplot objects) should be returned. This opion can be used to customize plots (e.g., add a title, change x and y labels, etc.). See examples and http://docs.ggplot2.org/for options.
	further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/basics/cross_tabs.html for an example in Radiant

See Also

```
cross_tabs to calculate results
summary.cross_tabs to summarize results
```

Examples

```
result <- cross_tabs("newspaper", "Income", "Newspaper")
plot(result, check = c("observed","expected","chi_sq"))
newspaper %>% cross_tabs("Income", "Newspaper") %>% plot(c("observed","expected"))
```

plot.goodness

Plot method for the goodness function

Description

Plot method for the goodness function

Usage

```
## $3 method for class 'goodness'
plot(x, check = "", fillcol = "blue", shiny = FALSE,
    custom = FALSE, ...)
```

14 plot.prob_binom

Arguments

x Return value from goodness

check Show plots for variable var. "observed" for the observed frequencies table, "expected" for the expected frequencies table (i.e., frequencies that would be expected if the null hypothesis holds), "chi_sq" for the contribution to the overall chi-squared statistic for each cell (i.e., (o - e)^2 / e), and "dev_std" for the standardized differences between the observed and expected frequencies (i.e., (o - e) / sqrt(e))

fillcol Color used for bar plots

shiny Did the function call originate inside a shiny app

custom Logical (TRUE, FALSE) to indicate if ggplot object (or list of ggplot objects)

should be returned. This opion can be used to customize plots (e.g., add a title, change x and y labels, etc.). See examples and http://docs.ggplot2.org/

for options.

... further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/basics/goodness for an example in Radiant

See Also

```
goodness to calculate results summary.goodness to summarize results
```

Examples

```
result <- goodness("newspaper", "Income")
plot(result, check = c("observed","expected","chi_sq"))
newspaper %>% goodness("Income") %>% plot(c("observed","expected"))
```

plot.prob_binom

Plot method for the probability calculator function (binomial)

Description

Plot method for the probability calculator function (binomial)

Usage

```
## S3 method for class 'prob_binom'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_binom

type Probabilities or values

... further arguments passed to or from other methods

plot.prob_chisq 15

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

plot.prob_chisq

Plot method for the probability calculator (Chi-squared distribution)

Description

Plot method for the probability calculator (Chi-squared distribution)

Usage

```
## S3 method for class 'prob_chisq'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_chisq

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

plot.prob_disc

Plot method for the probability calculator function (discrete)

Description

Plot method for the probability calculator function (discrete)

Usage

```
## S3 method for class 'prob_disc'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_disc

type Probabilities or values

... further arguments passed to or from other methods

Details

16 plot.prob_fdist

Examples

```
result <- prob_disc(v = "5 6 7 8 9 10 11 ", p = ".1 .2 .3 .15 .1 .1 .05", pub = 0.95) plot(result, type = "probs")
```

plot.prob_expo

Plot method for the probability calculator (Exponential distribution)

Description

Plot method for the probability calculator (Exponential distribution)

Usage

```
## S3 method for class 'prob_expo'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_expo

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

plot.prob_fdist

Plot method for the probability calculator (F-distribution)

Description

Plot method for the probability calculator (F-distribution)

Usage

```
## S3 method for class 'prob_fdist'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_fdist

type Probabilities or values

... further arguments passed to or from other methods

Details

plot.prob_lnorm 17

plot.prob_lnorm

Plot method for the probability calculator (log normal)

Description

Plot method for the probability calculator (log normal)

Usage

```
## S3 method for class 'prob_lnorm'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_norm

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

plot.prob_norm

Plot method for the probability calculator (normal)

Description

Plot method for the probability calculator (normal)

Usage

```
## S3 method for class 'prob_norm'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_norm

type Probabilities or values

... further arguments passed to or from other methods

Details

plot.prob_tdist

plot.prob_pois	Plot method for the probability calculator function (Poisson distribution)
----------------	--

Description

Plot method for the probability calculator function (Poisson distribution)

Usage

```
## S3 method for class 'prob_pois'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_pois
type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

plot.prob_tdist

Plot method for the probability calculator (t-distribution)

Description

Plot method for the probability calculator (t-distribution)

Usage

```
## S3 method for class 'prob_tdist'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_tdist

type Probabilities or values

... further arguments passed to or from other methods

Details

plot.prob_unif

plot.prob_unif	Plot method for the probability calculator (uniform)
----------------	--

Description

Plot method for the probability calculator (uniform)

Usage

```
## S3 method for class 'prob_unif'
plot(x, type = "values", ...)
```

Arguments

x Return value from prob_unif type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

plot.single_mean

Plot method for the single_mean function

Description

Plot method for the single_mean function

Usage

```
## S3 method for class 'single_mean'
plot(x, plots = "hist", shiny = FALSE,
    custom = FALSE, ...)
```

Arguments

х	Return value from single_mean
plots	Plots to generate. "hist" shows a histogram of the data along with vertical lines that indicate the sample mean and the confidence interval. "simulate" shows the location of the sample mean and the comparison value (comp_value). Simulation is used to demonstrate the sampling variability in the data under the null-hypothesis
shiny	Did the function call originate inside a shiny app
custom	Logical (TRUE, FALSE) to indicate if ggplot object (or list of ggplot objects) should be returned. This opion can be used to customize plots (e.g., add a title, change x and y labels, etc.). See examples and http://docs.ggplot2.org/for options.

further arguments passed to or from other methods

20 plot.single_prop

Details

See https://radiant-rstats.github.io/docs/basics/single_mean.html for an example in Radiant

See Also

```
single_mean to generate the result
summary.single_mean to summarize results
```

Examples

```
result <- single_mean("diamonds","price", comp_value = 3500)
plot(result, plots = c("hist", "simulate"))</pre>
```

plot.single_prop

Plot method for the single_prop function

Description

Plot method for the single_prop function

Usage

```
## S3 method for class 'single_prop'
plot(x, plots = "bar", shiny = FALSE,
    custom = FALSE, ...)
```

Arguments

X	Return value from single_prop
plots	Plots to generate. "bar" shows a bar chart of the data. The "simulate" chart shows the location of the sample proportion and the comparison value (comp_value). Simulation is used to demonstrate the sampling variability in the data under the null-hypothesis
shiny	Did the function call originate inside a shiny app
custom	Logical (TRUE, FALSE) to indicate if ggplot object (or list of ggplot objects) should be returned. This opion can be used to customize plots (e.g., add a title, change x and y labels, etc.). See examples and http://docs.ggplot2.org/for options.

. further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/basics/single_prop.html for an example in Radiant

See Also

```
single_prop to generate the result
summary.single_prop to summarize the results
```

print.correlation 21

Examples

```
result <- single_prop("diamonds","clarity", lev = "IF", comp_value = 0.05)
plot(result, plots = c("hist", "simulate"))
result <- single_prop("titanic","pclass", lev = "1st")
plot(result, plots = c("hist","simulate"))</pre>
```

print.correlation

Print method for radiant.basics::correlation

Description

Print method for radiant.basics::correlation

Usage

```
## S3 method for class 'correlation' print(x, ...)
```

Arguments

x Return value from correlation

... further arguments passed to or from other methods

prob_binom

Probability calculator for the binomial distribution (binomial)

Description

Probability calculator for the binomial distribution (binomial)

Usage

```
prob_binom(n, p, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

n	Number of trials
р	Probability
lb	Lower bound on the number of successes
ub	Upper bound on the number of successes
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

22 prob_disc

prob_chisq	Probability calculator for the chi-squared distribution

Description

Probability calculator for the chi-squared distribution

Usage

```
prob_chisq(df, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

df	Degrees of freedom
lb	Lower bound (default is 0)
ub	Upper bound (default is Inf)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html\ for\ an\ example\ in\ Radiant$

prob_disc

Probability calculator for the discrete distribution (discrete)

Description

Probability calculator for the discrete distribution (discrete)

Usage

```
prob_disc(v, p, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

V	Values
p	Probabilities
1b	Lower bound on the number of successes
ub	Upper bound on the number of successes
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

prob_expo 23

prob_expo	Probability calculator for the exponential distribution	

Description

Probability calculator for the exponential distribution

Usage

```
prob_expo(rate, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

rate	Rate
1b	Lower bound (default is 0)
ub	Upper bound (default is Inf)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html\ for\ an\ example\ in\ Radiant$

prob_fdist	Probability calculator for the F-distribution
p. 05 410 t	1 roodottity editettidior for the 1 distribution

Description

Probability calculator for the F-distribution

Usage

```
prob_fdist(df1, df2, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

df1	Degrees of freedom
df2	Degrees of freedom
lb	Lower bound (default is 0)
ub	Upper bound (default is Inf)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

24 prob_norm

Description

Probability calculator for the log normal distribution

Usage

```
prob_lnorm(meanlog, sdlog, lb = NA, ub = NA, plb = NA, pub = NA,
  dec = 3)
```

Arguments

meanlog Mean of the distribution on the log scale	
sdlog Standard deviation of the distribution on the log sc	ale
lb Lower bound (default is -Inf)	
ub Upper bound (default is Inf)	
plb Lower probability bound	
pub Upper probability bound	
dec Number of decimals to show	

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

prob_norm	Probability calculator for the normal distribution
F * * * = * * *	· · · · · · · · · · · · · · · · · · ·

Description

Probability calculator for the normal distribution

Usage

```
prob_norm(mean, stdev, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

mean	Mean
stdev	Standard deviation
lb	Lower bound (default is -Inf)
ub	Upper bound (default is Inf)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

prob_pois 25

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

prob_pois

Probability calculator for the poisson distribution

Description

Probability calculator for the poisson distribution

Usage

```
prob_pois(lambda, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

lambda	Rate
1b	Lower bound (default is 0)
ub	Upper bound (default is Inf)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html\ for\ an\ example\ in\ Radiant$

prob_tdist

Probability calculator for the t distribution

Description

Probability calculator for the t distribution

Usage

```
prob_tdist(df, mean = 0, stdev = 1, lb = NA, ub = NA, plb = NA,
    pub = NA, dec = 3)
```

26 prob_unif

Arguments

df	Degrees of freedom
mean	Mean
stdev	Standard deviation
lb	Lower bound (default is -Inf)
ub	Upper bound (default is Inf)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

prob_unif Pro	obability calculator for the uniform distribution
---------------	---

Description

Probability calculator for the uniform distribution

Usage

```
prob_unif(min, max, lb = NA, ub = NA, plb = NA, pub = NA, dec = 3)
```

Arguments

min	Minmum value
max	Maximum value
1b	Lower bound (default = 0)
ub	Upper bound (default = 1)
plb	Lower probability bound
pub	Upper probability bound
dec	Number of decimals to show

Details

radiant.basics 27

radiant.basics

radiant.basics

Description

radiant.basics

Launch radiant.basics in the default browser

Usage

```
radiant.basics()
```

Details

See https://radiant-rstats.github.io/docs for documentation and tutorials

Examples

```
## Not run:
radiant.basics()
## End(Not run)
```

radiant.basics_viewer Launch radiant.basics in the Rstudio viewer

Description

Launch radiant.basics in the Rstudio viewer

Usage

```
radiant.basics_viewer()
```

Details

See https://radiant-rstats.github.io/docs for documentation and tutorials

```
## Not run:
radiant.basics_viewer()
## End(Not run)
```

28 salary

radiant.basics_window Launch radiant.basics in an Rstudio window

Description

Launch radiant, basics in an Rstudio window

Usage

```
radiant.basics_window()
```

Details

See https://radiant-rstats.github.io/docs for documentation and tutorials

Examples

```
## Not run:
radiant.basics_window()
## End(Not run)
```

salary

Salaries for Professors

Description

Salaries for Professors

Usage

```
data(salary)
```

Format

A data frame with 397 rows and 6 variables

Details

2008-2009 nine-month salary for professors in a college in the US. Description provided in attr(salary,description")

single_mean 29

single_mean	Compare a sample mean to a population mean

Description

Compare a sample mean to a population mean

Usage

```
single_mean(dataset, var, comp_value = 0, alternative = "two.sided",
  conf_lev = 0.95, data_filter = "")
```

Arguments

dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r_data list from Radiant
var	The variable selected for the mean comparison
comp_value	Population value to compare to the sample mean
alternative	The alternative hypothesis ("two.sided", "greater", or "less")
conf_lev	Span for the confidence interval
data_filter	Expression entered in, e.g., Data > View to filter the dataset in Radiant. The expression should be a string (e.g., "price > 10000")

Details

```
See https://radiant-rstats.github.io/docs/basics/single_mean.html for an example in Radiant
```

Value

A list of variables defined in single_mean as an object of class single_mean

See Also

```
summary.single_mean to summarize results
plot.single_mean to plot results
```

```
single_mean("diamonds","price")
```

30 single_prop

single_prop	Compare a sample proportion to a population proportion	

Description

Compare a sample proportion to a population proportion

Usage

```
single_prop(dataset, var, lev = "", comp_value = 0.5,
   alternative = "two.sided", conf_lev = 0.95, data_filter = "")
```

Arguments

dataset	Dataset name (string). This can be a dataframe in the global environment or an element in an r_data list from Radiant
var	The variable selected for the proportion comparison
lev	The factor level selected for the proportion comparison
comp_value	Population value to compare to the sample proportion
alternative	The alternative hypothesis ("two.sided", "greater", or "less")
conf_lev	Span of the confidence interval
data_filter	Expression entered in, e.g., Data > View to filter the dataset in Radiant. The expression should be a string (e.g., "price > 10000")

Details

See $\verb|https://radiant-rstats.github.io/docs/basics/single_prop.html| for an example in Radiant$

Value

A list of variables used in single_prop as an object of class single_prop

See Also

```
summary.single_prop to summarize the results
plot.single_prop to plot the results
```

```
result <- single_prop("diamonds","cut")
result <- single_prop("diamonds","clarity", lev = "IF", comp_value = 0.05)</pre>
```

summary.compare_means Summary method for the compare_means function

Description

Summary method for the compare_means function

Usage

```
## S3 method for class 'compare_means'
summary(object, show = FALSE, dec = 3, ...)
```

Arguments

object Return value from compare_means
show Show additional output (i.e., t.value, df, and confidence interval)
dec Number of decimals to show
... further arguments passed to or from other methods

Details

See $https://radiant-rstats.github.io/docs/basics/compare_means.html \ for \ an \ example in \ Radiant$

See Also

```
compare_means to calculate results
plot.compare_means to plot results
```

Examples

```
result <- compare_means("diamonds","cut","price")
summary(result)
result <- diamonds %>% tbl_df %>% compare_means("x","y")
summary(result)
result <- diamonds %>% tbl_df %>% group_by(cut) %>% compare_means("x",c("x","y"))
summary(result)
```

summary.compare_props Summary method for the compare_props function

Description

Summary method for the compare_props function

Usage

```
## S3 method for class 'compare_props'
summary(object, show = FALSE, dec = 3, ...)
```

32 summary.correlation

Arguments

object Return value from compare_props
show Show additional output (i.e., chisq.value, df, and confidence interval)

dec Number of decimals to show

... further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/basics/compare_props.html for an example in Radiant

See Also

```
compare_props to calculate results
plot.compare_props to plot results
```

Examples

```
result <- compare_props("titanic", "pclass", "survived")
summary(result)
titanic %>% compare_props("pclass", "survived") %>% summary
```

summary.correlation

Summary method for the correlation function

Description

Summary method for the correlation function

Usage

```
## S3 method for class 'correlation'
summary(object, cutoff = 0, covar = FALSE, dec = 2,
)
```

Arguments

object Return value from correlation

cutoff Show only corrlations larger than the cutoff in absolute value. Default is a cutoff

of 0

covar Show the covariance matrix (default is FALSE)

dec Number of decimals to show

... further arguments passed to or from other methods.

Details

See https://radiant-rstats.github.io/docs/basics/correlation.html for an example in Radiant

summary.cross_tabs 33

See Also

```
correlation to calculate results plot.correlation to plot results
```

Examples

```
result <- correlation("diamonds",c("price","carat","table"))
summary(result, cutoff = .3)
diamonds %>% correlation("price:carat") %>% summary
```

summary.cross_tabs

Summary method for the cross_tabs function

Description

Summary method for the cross_tabs function

Usage

```
## S3 method for class 'cross_tabs'
summary(object, check = "", dec = 2, ...)
```

Arguments

object Return value from cross_tabs

check Show table(s) for variables var1 and var2. "observed" for the observed frequen-

cies table, "expected" for the expected frequencies table (i.e., frequencies that would be expected if the null hypothesis holds), "chi_sq" for the contribution to the overall chi-squared statistic for each cell (i.e., $(o - e)^2 / e$), "dev_std" for the standardized differences between the observed and expected frequencies (i.e., (o - e) / sqrt(e)), and "dev_perc" for the percentage difference between the

observed and expected frequencies (i.e., (o - e) / e)

dec Number of decimals to show

... further arguments passed to or from other methods.

Details

See https://radiant-rstats.github.io/docs/basics/cross_tabs.html for an example in Radiant

See Also

```
cross_tabs to calculate results
plot.cross_tabs to plot results
```

```
result <- cross_tabs("newspaper", "Income", "Newspaper")
summary(result, check = c("observed","expected","chi_sq"))
newspaper %>% cross_tabs("Income", "Newspaper") %>% summary("observed")
```

34 summary.goodness

summary.goodness

Summary method for the goodness function

Description

Summary method for the goodness function

Usage

```
## S3 method for class 'goodness'
summary(object, check = "", dec = 2, ...)
```

Arguments

object Return value from goodness

check Show table(s) for the selected variable (var). "observed" for the observed fre-

quencies table, "expected" for the expected frequencies table (i.e., frequencies that would be expected if the null hypothesis holds), "chi_sq" for the contribution to the overall chi-squared statistic for each cell (i.e., $(o - e)^2 / e$), "dev_std" for the standardized differences between the observed and expected frequencies (i.e., (o - e) / sqrt(e)), and "dev_perc" for the percentage difference between the

observed and expected frequencies (i.e., (o - e) / e)

dec Number of decimals to show

... further arguments passed to or from other methods.

Details

See https://radiant-rstats.github.io/docs/basics/goodness for an example in Radiant

See Also

```
goodness to calculate results plot.goodness to plot results
```

```
result <- goodness("newspaper", "Income", c(.3, .7))
summary(result, check = c("observed","expected","chi_sq"))
newspaper %>% goodness("Income", "1/3 2/3") %>% summary("observed")
```

summary.prob_binom 35

summary.prob_binom

Summary method for the probability calculator function

Description

Summary method for the probability calculator function

Usage

```
## S3 method for class 'prob_binom'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_binom

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html\ for\ an\ example\ in\ Radiant$

summary.prob_chisq

Summary method for the probability calculator function (Chi-squared distribution)

Description

Summary method for the probability calculator function (Chi-squared distribution)

Usage

```
## S3 method for class 'prob_chisq'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_chisq

type Probabilities or values

... further arguments passed to or from other methods

Details

36 summary.prob_expo

summary.prob_disc

Summary method for the probability calculator function (discrete)

Description

Summary method for the probability calculator function (discrete)

Usage

```
## S3 method for class 'prob_disc'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_disc

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

Examples

```
result <- prob_disc(v = "5 6 7 8 9 10 11 ", p = ".1 .2 .3 .15 .1 .1 .05", pub = 0.95) summary(result, type = "probs")
```

summary.prob_expo

Summary method for the probability calculator function (Exponential distribution)

Description

Summary method for the probability calculator function (Exponential distribution)

Usage

```
## S3 method for class 'prob_expo'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_expo

type Probabilities or values

... further arguments passed to or from other methods

Details

See $\verb|https://radiant-rstats.github.io/docs/basics/prob_calc.html| for an example in Radiant \\$

summary.prob_fdist 37

summary.prob_fdist	Summary method	for th	he probability	calculator	function	(F-
	distribution)					

Description

Summary method for the probability calculator function (F-distribution)

Usage

```
## S3 method for class 'prob_fdist'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_fdist

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

summary.prob_lnorm

Summary method for the probability calculator function (log normal)

Description

Summary method for the probability calculator function (log normal)

Usage

```
## S3 method for class 'prob_lnorm'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_norm

type Probabilities or values

... further arguments passed to or from other methods

Details

38 summary.prob_pois

summary.prob_norm

Summary method for the probability calculator function (normal)

Description

Summary method for the probability calculator function (normal)

Usage

```
## S3 method for class 'prob_norm'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_norm

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html\ for\ an\ example\ in\ Radiant$

summary.prob_pois

Summary method for the probability calculator function (Poisson distribution)

Description

Summary method for the probability calculator function (Poisson distribution)

Usage

```
## S3 method for class 'prob_pois'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_pois

type Probabilities or values

... further arguments passed to or from other methods

Details

summary.prob_tdist 39

summary.prob_tdist	Summary method for the probability calculator function (t-
	distribution)	

Description

Summary method for the probability calculator function (t-distribution)

Usage

```
## S3 method for class 'prob_tdist'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_tdist

type Probabilities or values

... further arguments passed to or from other methods

Details

 $See \ https://radiant-rstats.github.io/docs/basics/prob_calc.html \ for \ an \ example \ in \ Radiant$

summary.prob_unif

Summary method for the probability calculator function (uniform)

Description

Summary method for the probability calculator function (uniform)

Usage

```
## S3 method for class 'prob_unif'
summary(object, type = "values", ...)
```

Arguments

object Return value from prob_unif

type Probabilities or values

... further arguments passed to or from other methods

Details

40 summary.single_prop

 $summary.single_mean$

Summary method for the single_mean function

Description

Summary method for the single_mean function

Usage

```
## S3 method for class 'single_mean'
summary(object, dec = 3, ...)
```

Arguments

object Return value from single_mean dec Number of decimals to show

... further arguments passed to or from other methods

Details

See https://radiant-rstats.github.io/docs/basics/single_mean.html for an example in Radiant

See Also

```
single_mean to generate the results
plot.single_mean to plot results
```

Examples

```
result <- single_mean("diamonds","price")
summary(result)
diamonds %>% single_mean("price") %>% summary
```

summary.single_prop

Summary method for the single_prop function

Description

Summary method for the single_prop function

Usage

```
## S3 method for class 'single_prop'
summary(object, dec = 3, ...)
```

summary.single_prop 41

Arguments

object Return value from single_prop
dec Number of decimals to show

... further arguments passed to or from other methods

Details

See $\verb|https://radiant-rstats.github.io/docs/basics/single_prop.html| for an example in Radiant$

See Also

```
single_prop to generate the results
plot.single_prop to plot the results
```

```
result <- single_prop("diamonds","clarity", lev = "IF", comp_value = 0.05)
summary(result)
diamonds %>% single_prop("clarity", lev = "IF", comp_value = 0.05) %>% summary
```

Index

*Topic datasets	prob_pois, 18, 25, 38
consider, 6	prob_tdist, 18, 25, 39
demand_uk, 8	prob_unif, <i>19</i> , 26, <i>39</i>
newspaper, 9	
salary, 28	radiant.basics, 27
	radiant.basics-package
clt, 3, 9	(radiant.basics), 27
compare_means, 4, 10, 31	radiant.basics_viewer,27
compare_props, 5, 11, 32	radiant.basics_window,28
consider, 6	
correlation, 6, <i>12</i> , <i>32</i> , <i>33</i>	salary, 28
cross_tabs, 7, <i>13</i> , <i>33</i>	single_mean, 19, 20, 29, 40
	single_prop, 20, 30, 41
demand_uk, 8	summary.compare_means, 4, 10, 31
goodness, 8, 14, 34	summary.compare_props, 5, 11, 31
goodness, 6, 14, 54	summary.correlation, $7, 12, 32$
newspaper, 9	$summary.cross_tabs, 7, 13, 33$
	summary.goodness, 9, 14, 34
plot.clt,9	summary.prob_binom,35
plot.compare_means, 4 , 10 , 31	summary.prob_chisq,35
plot.compare_props, 5, 11, 32	summary.prob_disc, 36
plot.correlation, 7, 12, 33	summary.prob_expo,36
plot.cross_tabs, 7, 12, 33	<pre>summary.prob_fdist, 37</pre>
plot.goodness, 9, 13, 34	summary.prob_lnorm, 37
plot.prob_binom, 14	summary.prob_norm, 38
plot.prob_chisq, 15	summary.prob_pois,38
plot.prob_disc, 15	summary.prob_tdist,39
plot.prob_expo, 16	summary.prob_unif,39
plot.prob_fdist, 16	summary.single_mean, 20 , 29 , 40
plot.prob_lnorm, 17	summary.single_prop, 20 , 30 , 40
plot.prob_norm, 17	
plot.prob_pois, 18	
plot.prob_tdist, 18	
plot.prob_unif, 19	
plot.single_mean, 19, 29, 40	
plot.single_prop, 20, 30, 41	
print.correlation, 21	
prob_binom, <i>14</i> , 21, <i>35</i>	
prob_chisq, 15, 22, 35	
prob_disc, 15, 22, 36	
prob_expo, 16, 23, 36	
prob_fdist, <i>16</i> , 23, <i>37</i>	
prob_lnorm, 24	
prob_norm, 17, 24, 37, 38	