Package 'radiant.design'

February 10, 2018

Type Package

Title Design Menu for Radiant: Business Analytics using R and Shiny

Version 0.9.0

Date 2018-1-8

Description The Radiant Design menu includes interfaces for design of experiments, sampling, and sample size calculation. The application extends the functionality in radiant.data.

Depends R (>= 3.3.0),
radiant.data (>= 0.9.0),
mvtnorm

Imports dplyr (>= 0.7.4),
shiny (>= 1.0.5),
AlgDesign (>= 1.1.7.3),
rstudioapi (>= 0.7),
import (>= 1.1.0),
polycor,
methods

Suggests testthat (>= 2.0.0)

URL https://github.com/radiant-rstats/radiant.design, https://radiant-rstats.github.io/docs

BugReports https://github.com/radiant-rstats/radiant.design/issues

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LazyData true

RoxygenNote 6.0.1

R topics documented:

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doe *Create (partial) factorial design*

Description

Create (partial) factorial design

Usage

```
doe(factors, int = "", trials = NA, seed = NA)
```

Arguments

`factors`	Categorical variables used as input for design
`int`	Vector of interaction terms to consider when generating design
`trials`	Number of trial to create. If NA then all feasible designs will be considered until a design with perfect D-efficiency is found
`seed`	Random seed to use as the starting point

Details

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

Value

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

See Also

`summary.doe` to summarize results

Examples

```
"price; $10; $13; $16\nfood; popcorn; gourmet; no food" %>% doe
```

radiant.design *radiant.design*

Description

radiant.design

Launch radiant.design in default browser

Usage

```
radiant.design()
```

Details

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

Examples

```
## Not run:
radiant.design()

## End(Not run)
```

radiant.design_viewer *Launch radiant.design in the Rstudio viewer*

Description

Launch radiant.design in the Rstudio viewer

Usage

```
radiant.design_viewer()
```

Details

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

Examples

```
## Not run:
radiant.design_viewer()

## End(Not run)
```

rndnames *100 random names*

Description

100 random names

Usage

```
data(rndnames)
```

Format

A data frame with 100 rows and 2 variables

Details

A list of 100 random names generated by listofrandomnames.com. Description provided in attr(rndnames,"description")

sample_size *Sample size calculation*

Description

Sample size calculation

Usage

```
sample_size(type, err_mean = 2, sd_mean = 10, err_prop = 0.1,
  p_prop = 0.5, conf_lev = 1.96, incidence = 1, response = 1,
  pop_correction = "no", pop_size = 1e+06)
```

Arguments

type	Choose "mean" or "proportion"
err_mean	Acceptable Error for Mean
sd_mean	Standard deviation for Mean
err_prop	Acceptable Error for Proportion
p_prop	Initial proportion estimate for Proportion
conf_lev	Confidence level
incidence	Incidence rate (i.e., fraction of valid respondents)
response	Response rate
pop_correction	Apply correction for population size ("yes","no")
pop_size	Population size

Details

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

Value

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

See Also

summary.sample_size to summarize results

Examples

```
result <- sample_size(type = "mean", err_mean = 2, sd_mean = 10)
```

---

sample_size_comp *Sample size calculation for comparisons*

Description

Sample size calculation for comparisons

Usage

```
sample_size_comp(type, n = NULL, p1 = NULL, p2 = NULL, delta = NULL,
  sd = NULL, conf_lev = NULL, power = NULL, ratio = 1,
  alternative = "two.sided")
```

Arguments

type	Choose "mean" or "proportion"
n	Sample size
p1	Proportion 1 (only used when "proportion" is selected)
p2	Proportion 2 (only used when "proportion" is selected)
delta	Difference in means between two groups (only used when "mean" is selected)
sd	Standard deviation (only used when "mean" is selected)
conf_lev	Confidence level
power	Power
ratio	Sampling ratio (n1 / n2)
alternative	Two or one sided test

Details

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

Value

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

See Also

summary.sample_size_comp to summarize results

`sampling` *Simple random sampling*

Description

Simple random sampling

Usage

```
sampling(dataset, var, sample_size, seed = NA, 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 to sample from
`sample_size`	Number of units to select
`seed`	Random seed to use as the starting point
`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/design/sampling.html for an example in Radiant

Value

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

See Also

summary.sampling to summarize results

Examples

```
result <- sampling("rndnames","Names",10)
```

summary.doe *Summary method for doe function*

Description

Summary method for doe function

Usage

```
## S3 method for class 'doe'
summary(object, eff = TRUE, part = TRUE, full = TRUE, ...)
```

Arguments

object	Return value from doe
eff	If TRUE print efficiency output
part	If TRUE print partial factorial
full	If TRUE print full factorial
...	further arguments passed to or from other methods.

Details

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

See Also

doe to calculate results

Examples

```
"price; $10; $13; $16\nfood; popcorn; gourmet; no food" %>% doe %>% summary
```

summary.sample_size *Summary method for the sample_size function*

Description

Summary method for the sample_size function

Usage

```
## S3 method for class 'sample_size'
summary(object, ...)
```

Arguments

object	Return value from sample_size
...	further arguments passed to or from other methods

Details

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

See Also

sample_size to generate the results

Examples

```
result <- sample_size(type = "mean", err_mean = 2, sd_mean = 10)
summary(result)
```

---

summary.sample_size_comp *Summary method for the sample_size_comp function*

Description

Summary method for the sample_size_comp function

Usage

```
## S3 method for class 'sample_size_comp'
summary(object, ...)
```

Arguments

object	Return value from sample_size_comp
...	further arguments passed to or from other methods

Details

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

See Also

sample_size_comp to generate the results

summary.sampling *Summary method for the sampling function*

Description

Summary method for the sampling function

Usage

```
## S3 method for class 'sampling'
summary(object, prn = TRUE, ...)
```

Arguments

object	Return value from sampling
prn	Print full sampling frame. Default is TRUE
...	further arguments passed to or from other methods

Details

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

See Also

sampling to generate the results

Examples

```
set.seed(1234)
result <- sampling("rndnames", "Names", 10)
summary(result)
```

Index