

Package ‘vistributions’

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Type Package

Title Visualize Probability Distributions

Version 0.1.0

Description Visualize and compute percentiles/probabilities of normal, t, f, chi square and binomial distributions.

Depends R(>= 3.1)

Imports ggplot2, magrittr, shiny, stats, tibble

Suggests testthat, knitr, rmarkdown, shinyBS, shinycssloaders, shinythemes

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URL <https://github.com/rsquaredacademy/vistributions>,
<https://vistributions.rsquaredacademy.com>

BugReports <https://github.com/rsquaredacademy/vistributions/issues>

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VignetteBuilder knitr

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vdist_binom_plot	<i>Visualize binomial distribution</i>
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Description

Visualize how changes in number of trials and the probability of success affect the shape of the binomial distribution. Compute & visualize probability from a given quantile and quantiles out of given probability.

Usage

```
vdist_binom_plot(n, p)
```

```
vdist_binom_prob(n, p, s, type = c("lower", "upper", "exact",  
"interval"))
```

```
vdist_binom_perc(n, p, tp, type = c("lower", "upper"))
```

Arguments

n	Number of trials.
p	Aggregate probability.
s	Number of success.
type	Lower/upper/exact/interval.
tp	Probability of success in a trial.

See Also

[Binomial](#)

Examples

```
# visualize binomial distribution
vdist_binom_plot(10, 0.3)

# visualize probability from a given quantile
vdist_binom_prob(10, 0.3, 4, type = 'exact')
vdist_binom_prob(10, 0.3, 4, type = 'lower')
vdist_binom_prob(10, 0.3, 4, type = 'upper')
vdist_binom_prob(10, 0.3, c(4, 6), type = 'interval')
```

```
# visualize quantiles out of given probability
vdist_binom_perc(10, 0.5, 0.05)
vdist_binom_perc(10, 0.5, 0.05, "upper")
```

vdist_chisquare_plot *Visualize chi square distribution*

Description

Visualize how changes in degrees of freedom affect the shape of the chi square distribution. Compute & visualize quantiles out of given probability and probability from a given quantile.

Usage

```
vdist_chisquare_plot(df = 3, normal = FALSE)

vdist_chisquare_perc(probs = 0.95, df = 3, type = c("lower",
"upper"))

vdist_chisquare_prob(perc, df, type = c("lower", "upper"))
```

Arguments

df	Degrees of freedom.
normal	If TRUE, normal curve with same mean and sd as the chi square distribution is drawn.
probs	Probability value.
type	Lower tail or upper tail.
perc	Quantile value.

See Also

[Chisquare](#)

Examples

```
# visualize chi square distribution
vdist_chisquare_plot()
vdist_chisquare_plot(df = 5)
vdist_chisquare_plot(df = 5, normal = TRUE)

# visualize quantiles out of given probability
vdist_chisquare_perc(0.165, 8, 'lower')
vdist_chisquare_perc(0.22, 13, 'upper')

# visualize probability from a given quantile.
```

```
vdist_chisquare_prob(13.58, 11, 'lower')  
vdist_chisquare_prob(15.72, 13, 'upper')
```

vdist_f_plot

Visualize f distribution

Description

Visualize how changes in degrees of freedom affect the shape of the F distribution. Compute & visualize quantiles out of given probability and probability from a given quantile.

Usage

```
vdist_f_plot(num_df = 4, den_df = 30, normal = FALSE)  
  
vdist_f_perc(probs = 0.95, num_df = 3, den_df = 30,  
             type = c("lower", "upper"))  
  
vdist_f_prob(perc, num_df, den_df, type = c("lower", "upper"))
```

Arguments

num_df	Degrees of freedom associated with the numerator of f statistic.
den_df	Degrees of freedom associated with the denominator of f statistic.
normal	If TRUE, normal curve with same mean and sd as the F distribution is drawn.
probs	Probability value.
type	Lower tail or upper tail.
perc	Quantile value.

See Also

[FDist](#)

Examples

```
# visualize F distribution  
vdist_f_plot()  
vdist_f_plot(6, 10, normal = TRUE)  
  
# visualize probability from a given quantile  
vdist_f_perc(0.95, 3, 30, 'lower')  
vdist_f_perc(0.125, 9, 35, 'upper')  
  
# visualize quantiles out of given probability  
vdist_f_prob(2.35, 5, 32)  
vdist_f_prob(1.5222, 9, 35, type = "upper")
```

vdist_launch_app	<i>Launch Shiny App</i>
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Description

Launches shiny app

Usage

```
vdist_launch_app()
```

Examples

```
## Not run:  
vdist_launch_app()  
  
## End(Not run)
```

vdist_normal_plot	<i>Visualize normal distribution</i>
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Description

Visualize how changes in mean and standard deviation affect the shape of the normal distribution. Compute & visualize quantiles out of given probability and probability from a given quantile.

Usage

```
vdist_normal_plot(mean = 0, sd = 1)  
  
vdist_normal_perc(probs = 0.95, mean = 0, sd = 1, type = c("lower",  
  "upper", "both"))  
  
vdist_normal_prob(perc, mean = 0, sd = 1, type = c("lower", "upper",  
  "both"))
```

Arguments

mean	Mean of the normal distribution.
sd	Standard deviation of the normal distribution.
probs	Probability value.
type	Lower tail, upper tail or both.
perc	Quantile value.

See Also[Normal](#)**Examples**

```
# visualize normal distribution
vdist_normal_plot()
vdist_normal_plot(mean = 2, sd = 0.6)

# visualize quantiles out of given probability
vdist_normal_perc(0.95, mean = 2, sd = 1.36)
vdist_normal_perc(0.3, mean = 2, sd = 1.36, type = 'upper')
vdist_normal_perc(0.95, mean = 2, sd = 1.36, type = 'both')

# visualize probability from a given quantile
vdist_normal_prob(3.78, mean = 2, sd = 1.36)
vdist_normal_prob(3.43, mean = 2, sd = 1.36, type = 'upper')
vdist_normal_prob(c(-1.74, 1.83), type = 'both')
```

`vdist_t`*Visualize t distribution*

Description

Visualize how degrees of freedom affect the shape of t distribution, visualize quantiles out of given probability and probability from a given quantile.

Usage

```
vdist_t_plot(df = 3)

vdist_t_perc(probs = 0.95, df = 4, type = c("lower", "upper",
      "both"))

vdist_t_prob(perc, df, type = c("lower", "upper", "interval", "both"))
```

Arguments

<code>df</code>	Degrees of freedom.
<code>probs</code>	Probability value.
<code>type</code>	Lower tail, upper tail, interval or both.
<code>perc</code>	Quantile value.

See Also[TDist](#)

Examples

```
# visualize t distribution
vdist_t_plot()
vdist_t_plot(6)
vdist_t_plot(df = 8)

# visualize quantiles out of given probability
vdist_t_perc(probs = 0.95, df = 4, type = 'lower')
vdist_t_perc(probs = 0.35, df = 4, type = 'upper')
vdist_t_perc(probs = 0.69, df = 7, type = 'both')

# visualize probability from a given quantile
vdist_t_prob(2.045, 7, 'lower')
vdist_t_prob(0.945, 7, 'upper')
vdist_t_prob(1.445, 7, 'interval')
vdist_t_prob(1.6, 7, 'both')
```

vistributions

vistributions *package*

Description

Visualize probability distributions.

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