

Package: visualize (via r-universe)

November 9, 2024

Type Package

Title Graph Probability Distributions with User Supplied Parameters and Statistics

Version 4.5.0

Depends R (>= 4.0.0)

Description Graphs the pdf or pmf and highlights what area or probability is present in user defined locations. Visualize is able to provide lower tail, bounded, upper tail, and two tail calculations. Supports strict and equal to inequalities. Also provided on the graph is the mean and variance of the distribution.

License MIT + file LICENSE

URL <https://github.com/coatless-rpkg/visualize>,
<https://thecoatlessprofessor.com/projects/visualize/>,
<https://r-pkg.thecoatlessprofessor.com/visualize/>

BugReports <https://github.com/coatless-rpkg/visualize/issues>

Encoding UTF-8

RoxygenNote 7.2.3

Roxygen list(markdown = TRUE)

Repository <https://coatless-rpkg.r-universe.dev>

RemoteUrl <https://github.com/coatless-rpkg/visualize>

RemoteRef HEAD

RemoteSha c43b25cdbcd229fc23109eaaf1979d2eb662fc60

Contents

visualize.beta	2
visualize.binom	3
visualize.cauchy	4
visualize.chisq	5

visualize.continuous	6
visualize.discrete	7
visualize.exp	8
visualize.f	9
visualize.gamma	10
visualize.geom	11
visualize.hyper	12
visualize.it	13
visualize.lnorm	14
visualize.logis	15
visualize.nbinom	16
visualize.norm	17
visualize.pois	18
visualize.t	19
visualize.unif	20
visualize.wilcox	21
Index	23

visualize.beta	<i>Visualize Beta Distribution</i>
----------------	------------------------------------

Description

Generates a plot of the Beta distribution with user specified parameters.

Usage

```
visualize.beta(stat = 1, alpha = 3, beta = 2, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
alpha	alpha is considered to be <i>shape1</i> by R's implementation of the beta distribution. alpha must be greater than 0.
beta	beta is considered to be <i>shape2</i> by R's implementation of the beta distribution. beta must be greater than 0.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also[visualize.it\(\)](#), [dbeta\(\)](#).**Examples**

```
# Evaluates lower tail.
visualize.beta(stat = 1, alpha = 2, beta = 3, section = "lower")

# Evaluates bounded region.
visualize.beta(stat = c(.5,1), alpha = 4, beta = 3, section = "bounded")

# Evaluates upper tail.
visualize.beta(stat = 1, alpha = 2, beta = 3, section = "upper")
```

visualize.binom	<i>Visualize Binomial Distribution</i>
-----------------	--

Description

Generates a plot of the Binomial distribution with user specified parameters.

Usage

```
visualize.binom(
  stat = 1,
  size = 3,
  prob = 0.5,
  section = "lower",
  strict = FALSE
)
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
size	size of sample.
prob	probability of picking object.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".
strict	Determines whether the probability will be generated as a strict (<code><</code> , <code>></code>) or equal to (<code><=</code> , <code>>=</code>) inequality. <code>strict=</code> requires either values = 0 or =FALSE for equal to OR values =1 or =TRUE for strict. For bounded condition use: <code>strict=c(0, 1)</code> or <code>strict=c(FALSE, TRUE)</code> .

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dbinom\(\)](#).

Examples

```
# Evaluates lower tail with equal to inequality.
visualize.binom(stat = 1, size = 3, prob = 0.5, section = "lower", strict = FALSE)

# Evaluates bounded region with lower bound equal to and upper bound strict inequality.
visualize.binom(stat = c(1,2), size = 5, prob = 0.35, section = "bounded", strict = c(0,1))

# Evaluates upper tail with strict inequality.
visualize.binom(stat = 1, size = 3, prob = 0.5, section = "upper", strict = TRUE)
```

visualize.cauchy

Visualize Cauchy Distribution

Description

Generates a plot of the Cauchy distribution with user specified parameters.

Usage

```
visualize.cauchy(stat = 1, location = 2, scale = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
location	location parameter
scale	scale parameter
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dcauchy\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.cauchy(stat = 1, location = 4, scale = 2, section = "lower")

# Evaluates bounded region.
visualize.cauchy(stat = c(3,5), location = 5, scale = 3, section = "bounded")

# Evaluates upper tail.
visualize.cauchy(stat = 1, location = 4, scale = 2, section = "upper")
```

visualize.chisq	<i>Visualize Chi-squared Distribution</i>
-----------------	---

Description

Generates a plot of the Chi-squared distribution with user specified parameters.

Usage

```
visualize.chisq(stat = 1, df = 3, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
df	degrees of freedom of Chi-squared distribution.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dchisq\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.chisq(stat = 1, df = 3, section = "lower")
# Evaluates bounded region.
visualize.chisq(stat = c(1,2), df = 6, section = "bounded")
# Evaluates upper tail.
visualize.chisq(stat = 1, df = 3, section = "upper")
```

visualize.continuous *Graphing function for Continuous Distributions.*

Description

Handles how continuous distributions are graphed. Users should not use this function. Instead, users should use [visualize.it\(\)](#).

Usage

```
visualize.continuous(dist, stat = c(0, 1), params, section = "lower")
```

Arguments

dist	contains a supported continuous distribution shortname.
stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
params	A list that must contain the necessary parameters for each distribution. For example, <code>params = list(mu = 1, sd = 1)</code> would be for a normal distribution with mean 1 and standard deviation 1. If you are not aware of the parameters for the distribution, consider using the <code>visualize.dist_name</code> functions listed under the "See Also" section.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails"

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [visualize.beta\(\)](#), [visualize.chisq\(\)](#), [visualize.exp\(\)](#), [visualize.gamma\(\)](#), [visualize.norm\(\)](#), [visualize.unif\(\)](#), [visualize.cauchy\(\)](#), [visualize.f\(\)](#), [visualize.lnorm\(\)](#), [visualize.t\(\)](#), [visualize.wilcox\(\)](#), [visualize.logis\(\)](#).

Examples

```
# Function does not have dist look up, must go through visualize.it
visualize.it(dist='norm', stat = c(0,1), params = list(mu = 1, sd = 1), section = "bounded")
```

visualize.discrete *Graphing function for Discrete Distributions.*

Description

Handles how discrete distributions are graphed. Users should not use this function. Instead, users should use `link{visualize.it}`.

Usage

```
visualize.discrete(dist, stat = c(0, 1), params, section = "lower", strict)
```

Arguments

<code>dist</code>	contains the distribution from <code>link{visualize.distributions}</code> .
<code>stat</code>	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
<code>params</code>	A list that must contain the necessary parameters for each distribution. For example, <code>params = list(n = 5, prob = .25)</code> would be for a binomial distribution with size 5 and probability .25. If you are not aware of the parameters for the distribution, consider using the <code>visualize.dist_name</code> functions listed under the "See Also" section.
<code>section</code>	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".
<code>strict</code>	Determines whether the probability will be generated as a strict (<, >) or equal to (<=, >=) inequality. <code>strict=</code> requires either values = 0 or =FALSE for equal to OR values =1 or =TRUE for strict. For bounded condition use: <code>strict=c(0, 1)</code> or <code>strict=c(FALSE, TRUE)</code> .

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [visualize.binom\(\)](#), [visualize.geom\(\)](#), [visualize.hyper\(\)](#), [visualize.nbinom\(\)](#), [visualize.pois\(\)](#).

Examples

```
# Function does not have dist look up, must go through visualize.it
visualize.it(dist='geom', stat = c(2,4), params = list(prob = .75), section = "bounded",
            strict = c(0,1))
```

visualize.exp

Visualize Exponential Distribution

Description

Generates a plot of the Exponential distribution with user specified parameters.

Usage

```
visualize.exp(stat = 1, theta = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
theta	vector of rates
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dexp\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.exp(stat = .5, theta = 3, section = "lower")

# Evaluates bounded region.
visualize.exp(stat = c(1,2), theta = 3, section = "bounded")

# Evaluates upper tail.
visualize.exp(stat = .5, theta = 3, section = "upper")
```

visualize.f	<i>Visualize F distribution</i>
-------------	---------------------------------

Description

Generates a plot of the F distribution with user specified parameters.

Usage

```
visualize.f(stat = 1, df1 = 5, df2 = 4, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
df1	First Degrees of Freedom
df2	Second Degrees of Freedom
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [df\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.f(stat = 1, df1 = 5, df2 = 4, section = "lower")

# Evaluates bounded region.
visualize.f(stat = c(3,5), df1 = 6, df2 = 3, section = "bounded")

# Evaluates upper tail.
visualize.f(stat = 1, df1 = 5, df2 = 4, section = "upper")
```

visualize.gamma

Visualize Gamma Distribution

Description

Generates a plot of the Gamma distribution with user specified parameters.

Usage

```
visualize.gamma(stat = 1, alpha = 1, theta = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
alpha	alpha is considered to be <i>shape</i> by R's implementation of the gamma distribution. alpha must be greater than 0.
theta	theta is considered to be <i>rate</i> by R's implementation of the gamma distribution. theta must be greater than 0.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dgamma\(\)](#).

Examples

```
# Evaluate lower tail.
visualize.gamma(stat = 1, alpha = 3, theta = 1, section = "lower")

# Evaluate bounded section.
visualize.gamma(stat = c(0.75,1), alpha = 3, theta = 1, section = "bounded")

# Evaluate upper tail.
visualize.gamma(stat = 1, alpha = 3, theta = 1, section = "upper")
```

visualize.geom	<i>Visualize Geometric Distribution</i>
----------------	---

Description

Generates a plot of the Geometric distribution with user specified parameters.

Usage

```
visualize.geom(stat = 1, prob = 0.3, section = "lower", strict = FALSE)
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
prob	probability of picking object.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".
strict	Determines whether the probability will be generated as a strict (<, >) or equal to (<=, >=) inequality. <code>strict=</code> requires either values = 0 or =FALSE for equal to OR values =1 or =TRUE for strict. For bounded condition use: <code>strict=c(0,1)</code> or <code>strict=c(FALSE, TRUE)</code> .

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dgeom\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.geom(stat = 1, prob = 0.5, section = "lower", strict = FALSE)

# Evaluates bounded region.
visualize.geom(stat = c(1,3), prob = 0.35, section = "bounded", strict = c(0,1))

# Evaluates upper tail.
visualize.geom(stat = 1, prob = 0.5, section = "upper", strict = 1)
```

`visualize.hyper`*Visualize Hypergeometric Distribution*

Description

Generates a plot of the Hypergeometric distribution with user specified parameters.

Usage

```
visualize.hyper(  
  stat = 1,  
  m = 5,  
  n = 4,  
  k = 2,  
  section = "lower",  
  strict = FALSE  
)
```

Arguments

<code>stat</code>	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
<code>m</code>	<code>m</code> white balls. <code>m</code> must be greater than 0.
<code>n</code>	<code>n</code> black balls. <code>n</code> must be greater than 0.
<code>k</code>	draw <code>k</code> balls without replacement.
<code>section</code>	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".
<code>strict</code>	Determines whether the probability will be generated as a strict (<code><</code> , <code>></code>) or equal to (<code><=</code> , <code>>=</code>) inequality. <code>strict=</code> requires either values = 0 or =FALSE for equal to OR values =1 or =TRUE for strict. For bounded condition use: <code>strict=c(0, 1)</code> or <code>strict=c(FALSE, TRUE)</code> .

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dhyper\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.hyper(stat = 1, m=4, n=5, k=3, section = "lower", strict = 0)

# Evaluates bounded region.
visualize.hyper(stat = c(2,4), m=14, n=5, k=2, section = "bounded", strict = c(0,1))

# Evaluates upper tail.
visualize.hyper(stat = 1, m=4, n=5, k=3, section = "upper", strict = 1)
```

visualize.it

Visualize's Processing Function

Description

Acts as a director of traffic and first line of error handling regarding submitted visualization requests. This function should only be used by advanced users.

Usage

```
visualize.it(
  dist = "norm",
  stat = c(0, 1),
  params = list(mu = 0, sd = 1),
  section = "lower",
  strict = c(0, 1)
)
```

Arguments

dist	a string that should contain a supported probability distributions name in R. Supported continuous distributions: "beta", "chisq", "exp", "gamma", "norm", and "unif". Supported discrete distributions: "binom", "geom", "hyper", "nbinom", and "pois".
stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
params	A list that must contain the necessary parameters for each distribution. For example, <code>params = list(mu = 1, sd = 1)</code> would be for a normal distribution with mean 1 and standard deviation 1. If you are not aware of the parameters for the distribution, consider using the <code>visualize.dist</code> functions listed under the "See Also" section.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

strict Determines whether the probability will be generated as a strict ($<$, $>$) or equal to ($<=$, $>=$) inequality. `strict=` requires either values `= 0` or `=FALSE` for strict OR values `=1` or `=TRUE` for equal to. For bounded condition use: `strict=c(0,1)` or `strict=c(FALSE,TRUE)`.

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

References

<http://cran.r-project.org/web/views/Distributions.html>

See Also

`visualize.beta()`, `visualize.chisq()`, `visualize.exp()`, `visualize.gamma()`, `visualize.norm()`, `visualize.unif()`, `visualize.binom()`, `visualize.geom()`, `visualize.hyper()`, `visualize.nbinom()`, `visualize.pois()`.

Examples

```
# Defaults to lower tail evaluation
visualize.it(dist = 'norm', stat = 1, list(mu = 3 , sd = 2), section = "lower")

# Set to evaluate the upper tail.
visualize.it(dist = 'norm', stat = 1, list(mu=3,sd=2),section="upper")

# Set to shade inbetween a bounded region.
visualize.it(dist = 'norm', stat = c(-1,1), list(mu=0,sd=1), section="bounded")

# Gamma distribution evaluated at upper tail.
visualize.it(dist = 'gamma', stat = 2, params = list(alpha=2,beta=1),section="upper")

# Binomial distribution evaluated at lower tail.
visualize.it('binom', stat = 2, params = list(n=4,p=.5))
```

visualize.lnorm

Visualize Log Normal Distribution

Description

Generates a plot of the Log Normal distribution with user specified parameters.

Usage

```
visualize.lnorm(stat = 1, meanlog = 3, sdlog = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
meanlog	Mean of the distribution
sdlog	Standard deviation of the distribution
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dlnorm\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.lnorm(stat = 1, meanlog = 3, sdlog = 1, section = "lower")

# Evaluates bounded region.
visualize.lnorm(stat = c(3,5), meanlog = 3, sdlog = 3, section = "bounded")

# Evaluates upper tail.
visualize.lnorm(stat = 1, meanlog = 3, sdlog = 1, section = "upper")
```

visualize.logis

Visualize Logistic distribution

Description

Generates a plot of the Logistic distribution with user specified parameters.

Usage

```
visualize.logis(stat = 1, location = 3, scale = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
location	Location of the distribution.
scale	Scale of the distribution.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dlogis\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.logis(stat = 1, location = 4, scale = 2, section = "lower")

# Evaluates bounded region.
visualize.logis(stat = c(3,5), location = 4, scale = 2, section = "bounded")

# Evaluates upper tail.
visualize.logis(stat = 1, location = 4, scale = 2, section = "upper")
```

visualize.nbinom

Visualize Negative Binomial Distribution

Description

Generates a plot of the Negative Binomial distribution with user specified parameters.

Usage

```
visualize.nbinom(
  stat = 1,
  size = 6,
  prob = 0.5,
  section = "lower",
  strict = FALSE
)
```


Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
size	number of objects.
prob	probability of picking object.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".
strict	Determines whether the probability will be generated as a strict (<, >) or equal to (<=, >=) inequality. <code>strict=</code> requires either values = 0 or = FALSE for equal to OR values = 1 or = TRUE for strict. For bounded condition use: <code>strict=c(0, 1)</code> or <code>strict=c(FALSE, TRUE)</code> .

Author(s)

James Balamuta

See Also[visualize.it\(\)](#), [dnbinom\(\)](#).**Examples**

```
# Evaluates lower tail.
visualize.nbinom(stat = 1, size = 5, prob = 0.5, section = "lower", strict = 0)

# Evaluates bounded region.
visualize.nbinom(stat = c(1,3), size = 10, prob = 0.35, section = "bounded",
                 strict = c(TRUE, FALSE))

# Evaluates upper tail.
visualize.nbinom(stat = 1, size = 5, prob = 0.5, section = "upper", strict = 1)
```

visualize.norm

Visualize Normal Distribution

Description

Generates a plot of the Normal distribution with user specified parameters.

Usage

```
visualize.norm(stat = 1, mu = 0, sd = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
mu	mean of the Normal Distribution.
sd	standard deviation of the Normal Distribution.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

See Also

[visualize.it\(\)](#), [dnorm\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.norm(stat = 1, mu = 4, sd = 5, section = "lower")

# Evaluates bounded region.
visualize.norm(stat = c(3,6), mu = 5, sd = 3, section = "bounded")

# Evaluates upper tail.
visualize.norm(stat = 1, mu = 3, sd = 2, section = "upper")
```

visualize.pois	<i>Visualize Poisson Distribution</i>
----------------	---------------------------------------

Description

Generates a plot of the Poisson distribution with user specified parameters.

Usage

```
visualize.pois(stat = 1, lambda = 3.5, section = "lower", strict = FALSE)
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
lambda	lambda value of the Poisson Distribution.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".
strict	Determines whether the probability will be generated as a strict (<, >) or equal to (<=, >=) inequality. <code>strict=</code> requires either values = 0 or =FALSE for equal to OR values =1 or =TRUE for strict. For bounded condition use: <code>strict=c(0, 1)</code> or <code>strict=c(FALSE, TRUE)</code> .

Author(s)

James Balamuta

See Also[visualize.it\(\)](#), [dpois\(\)](#).**Examples**

```
# Evaluates lower tail.
visualize.pois(stat = 1, lambda = 2, section = "lower", strict = FALSE)

# Evaluates bounded region.
visualize.pois(stat = c(1,3), lambda = 3, section = "bounded", strict = c(0,1))

# Evaluates upper tail.
visualize.pois(stat = 1, lambda = 2, section = "upper", strict = 1)
```

visualize.t

Visualize Student's t distribution

Description

Generates a plot of the Student's t distribution with user specified parameters.

Usage

```
visualize.t(stat = 1, df = 3, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
df	Degrees of freedom
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dt\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.t(stat = 1, df = 4, section = "lower")

# Evaluates bounded region.
visualize.t(stat = c(3,5), df = 6, section = "bounded")

# Evaluates upper tail.
visualize.t(stat = 1, df = 4, section = "upper")
```

visualize.unif *Visualize Uniform Distribution*

Description

Generates a plot of the Uniform distribution with user specified parameters.

Usage

```
visualize.unif(stat = 1, a = 0, b = 1, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
a	starting point. Note: $a < b$
b	end point. Note: $b > a$
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dunif\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.unif(stat = 8.75, a = 7, b = 10, section = "lower")

# Evaluates bounded region.
visualize.unif(stat = c(3,6), a = 1, b = 7, section = "bounded")

# Evaluates upper tail.
visualize.unif(stat = 2, a = 1, b = 5, section = "upper")
```

visualize.wilcox *Visualize Cauchy Distribution*

Description

Generates a plot of the Wilcoxon Rank Sum distribution with user specified parameters.

Usage

```
visualize.wilcox(stat = 1, m = 7, n = 3, section = "lower")
```

Arguments

stat	a statistic to obtain the probability from. When using the "bounded" condition, you must supply the parameter as <code>stat = c(lower_bound, upper_bound)</code> . Otherwise, a simple <code>stat = desired_point</code> will suffice.
m	Sample size from group 1.
n	Sample size from group 2.
section	Select how you want the statistic(s) evaluated via <code>section=</code> either "lower", "bounded", "upper", or "tails".

Value

Returns a plot of the distribution according to the conditions supplied.

Author(s)

James Balamuta

See Also

[visualize.it\(\)](#), [dwilcox\(\)](#).

Examples

```
# Evaluates lower tail.
visualize.wilcox(stat = 1, m = 7, n = 3, section = "lower")

# Evaluates bounded region.
visualize.wilcox(stat = c(2,3), m = 5, n = 4, section = "bounded")

# Evaluates upper tail.
visualize.wilcox(stat = 1, m = 7, n = 3, section = "upper")
```

Index

* continuous-distribution

- visualize.beta, 2
- visualize.cauchy, 4
- visualize.chisq, 5
- visualize.continuous, 6
- visualize.exp, 8
- visualize.f, 9
- visualize.gamma, 10
- visualize.lnorm, 14
- visualize.logis, 15
- visualize.norm, 17
- visualize.t, 19
- visualize.unif, 20
- visualize.wilcox, 21

* visualize

- visualize.binom, 3
- visualize.discrete, 7
- visualize.geom, 11
- visualize.hyper, 12
- visualize.it, 13
- visualize.nbinom, 16
- visualize.pois, 18

- dbeta(), 3
- dbinom(), 4
- dcauchy(), 5
- dchisq(), 5
- dexp(), 8
- df(), 9
- dgamma(), 10
- dgeom(), 11
- dhyper(), 12
- dlnorm(), 15
- dlogis(), 16
- dnbinom(), 17
- dnorm(), 18
- dpois(), 19
- dt(), 20
- dunif(), 20
- dwilcox(), 21

- visualize.beta, 2
- visualize.beta(), 6, 14
- visualize.binom, 3
- visualize.binom(), 7, 14
- visualize.cauchy, 4
- visualize.cauchy(), 6
- visualize.chisq, 5
- visualize.chisq(), 6, 14
- visualize.continuous, 6
- visualize.discrete, 7
- visualize.exp, 8
- visualize.exp(), 6, 14
- visualize.f, 9
- visualize.f(), 6
- visualize.gamma, 10
- visualize.gamma(), 6, 14
- visualize.geom, 11
- visualize.geom(), 7, 14
- visualize.hyper, 12
- visualize.hyper(), 7, 14
- visualize.it, 13
- visualize.it(), 3–12, 15–21
- visualize.lnorm, 14
- visualize.lnorm(), 6
- visualize.logis, 15
- visualize.logis(), 6
- visualize.nbinom, 16
- visualize.nbinom(), 7, 14
- visualize.norm, 17
- visualize.norm(), 6, 14
- visualize.pois, 18
- visualize.pois(), 7, 14
- visualize.t, 19
- visualize.t(), 6
- visualize.unif, 20
- visualize.unif(), 6, 14
- visualize.wilcox, 21
- visualize.wilcox(), 6