

Package: pr (via r-universe)

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Title Classes for Probabilities

Version 0.0.1

Description Provides S3 classes to represent probability vectors and matrices using 'vctrs'. Allows for creation, validation, and pretty printing of each class. Includes a special probability matrix type with counts to allow for cases with limited possible values.

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Imports cli, rlang, vctrs

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Suggests spelling, testthat (>= 3.0.0)

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<https://christophertkenny.com/pr/>

Repository <https://christopherkenny.r-universe.dev>

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cnt_prob_mat	<i>Create a probability matrix with counts record</i>
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Description

Create a probability matrix with counts record

Usage

```
cnt_prob_mat(..., count = NULL)
```

```
validate_cnt_prob_mat(x)
```

Arguments

...	Named prob vectors or vectors coercible to prob
count	A positive integer vector indicating the number of cases. Defaults to 1L recycled to the length of the probability vectors.
x	A cnt_prob_mat for validation

Value

a cnt_prob_mat vector

Examples

```
p1 <- prob(c(0.4, 2 / 3, NA_real_, 1L))
p2 <- 1 - p1
cnt_prob_mat(pr_one = p1, pr_two = p2, count = c(10L, 20L, 5L, 15L))
cnt_prob_mat(pr_one = p1, pr_two = p2) # count defaults to 1L
```

prob	<i>Create a probability vector</i>
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Description

A probability vector here is used as a vector where all entries are between 0 and 1 or are missing.

Usage

```
prob(x = double())
```

```
validate_prob(x)
```

```
is_prob(x)
```

```
as_prob(x)
```

Arguments

x A double vector of probabilities

Value

a prob vector

Examples

```
prob(c(0.4, 2 / 3, NA_real_, 1L))
```

prob_mat	<i>Create a probability matrix record</i>
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Description

A collection of prob vectors which sum to 1 row-wise.

Usage

```
prob_mat(...)  
  
validate_prob_mat(x)
```

Arguments

... Named prob vectors or vectors coercible to prob
x A prob_mat for validation

Value

a prob vector

Examples

```
p1 <- prob(c(0.4, 2 / 3, NA_real_, 1L))  
p2 <- 1 - p1  
prob_mat(pr_one = p1, pr_two = p2)
```

prob_mat_from_matrix *Convert matrix into prob_mat*

Description

Convert matrix into prob_mat

Usage

```
prob_mat_from_matrix(x, ...)  
  
## S3 method for class 'prob_mat'  
as.matrix(x, ...)
```

Arguments

x	A prob_mat or matrix
...	Ignored.

Value

prob_mat_from_matrix() returns a prob_mat and as.matrix() returns a matrix

Examples

```
p1 <- prob(c(0.4, 2 / 3, NA_real_, 1L))  
p2 <- 1 - p1  
pm <- prob_mat(pr_one = p1, pr_two = p2)  
m <- as.matrix(pm)  
m  
prob_mat_from_matrix(m)
```

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