

Package ‘tidyna’

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Title NA-Aware Defaults for Common R Functions

Version 0.4.0

Description

Provides drop-in replacements for common R functions (mean(), sum(), sd(), min(), etc.) that default to 'na.rm = TRUE' and issue warnings when missing values are removed. It handles some special cases. The table() default is set to 'useNA = ifany'.

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URL <https://github.com/statzhero/tidyna>

BugReports <https://github.com/statzhero/tidyna/issues>

NeedsCompilation no

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correlation-functions *NA-aware Correlation Function*

Description

Drop-in replacement for `cor()` that defaults to `use = "pairwise.complete.obs"`.

Usage

```
cor(
  x,
  y = NULL,
  use = "pairwise.complete.obs",
  method = c("pearson", "kendall", "spearman"),
  ...
)
```

Arguments

<code>x</code>	A numeric vector, matrix, or data frame.
<code>y</code>	Optional. A numeric vector, matrix, or data frame.
<code>use</code>	Method for handling missing values. Default <code>"pairwise.complete.obs"</code> .
<code>method</code>	Correlation method: <code>"pearson"</code> , <code>"kendall"</code> , or <code>"spearman"</code> .
<code>...</code>	Additional arguments passed to <code>stats::cor()</code> .

Value

A correlation matrix or single correlation coefficient.

Examples

```
x <- c(1, 2, NA, 4)
y <- c(2, 4, 6, 8)
cor(x, y)
```

extrema-functions *NA-aware Extrema Functions*

Description

Drop-in replacements for `min()`, `max()`, `range()`, `pmax()`, and `pmin()` that default to `na.rm = TRUE`.

Usage

```
min(..., na.rm = TRUE, all_na = NULL)

max(..., na.rm = TRUE, all_na = NULL)

range(..., na.rm = TRUE, all_na = NULL, finite = FALSE)

pmax(..., na.rm = TRUE, all_na = NULL)

pmin(..., na.rm = TRUE, all_na = NULL)
```

Arguments

<code>...</code>	Numeric or character arguments.
<code>na.rm</code>	Logical. Should missing values be removed? Default TRUE.
<code>all_na</code>	Character. What to do when all values are NA: "error" (default) throws an error, "base" returns what base R does with <code>na.rm = TRUE</code> (e.g., Inf for <code>min()</code> , -Inf for <code>max()</code>), "na" returns NA. If NULL, uses <code>getOption("tidyna.all_na", "error")</code> .
<code>finite</code>	Logical. If TRUE, removes all non-finite values (NA, NaN, Inf, -Inf). Only applies to <code>range()</code> . Default FALSE.

Value

For `min()` and `max()`, a length-one vector. For `range()`, a length-two vector containing the minimum and maximum. For `pmax()` and `pmin()`, a vector of length equal to the longest input.

Examples

```
x <- c(1, NA, 5, 3)
min(x)
max(x)
range(x)

# Multiple arguments
min(c(5, NA), c(1, 2))

# Parallel max/min
pmax(c(1, 5, 3), c(2, 1, 4))
pmin(c(1, NA, 3), c(NA, NA, 1))

# range with infinite values
y <- c(1, Inf, 3, -Inf)
range(y)
range(y, finite = TRUE)
```

logical-functions *NA-aware Logical Functions*

Description

Drop-in replacements for `any()` and `all()` that default to `na.rm = TRUE`.

Usage

```
any(x, na.rm = TRUE, all_na = NULL, ...)
```

```
all(x, na.rm = TRUE, all_na = NULL, ...)
```

Arguments

<code>x</code>	A logical vector.
<code>na.rm</code>	Logical. Should missing values be removed? Default <code>TRUE</code> .
<code>all_na</code>	Character. What to do when all values are NA: "error" (default) throws an error, "base" returns what base R does with <code>na.rm = TRUE</code> (<code>FALSE</code> for <code>any()</code> , <code>TRUE</code> for <code>all()</code>), "na" returns NA. If <code>NULL</code> , uses <code>getOption("tidyna.all_na", "error")</code> .
<code>...</code>	Additional arguments passed to the base function.

Value

A single logical value.

Examples

```
x <- c(TRUE, NA, FALSE)
any(x)
all(x)
```

row-functions *NA-aware Row-wise Functions*

Description

Drop-in replacements for `rowMeans()` and `rowSums()` that default to `na.rm = TRUE`. Both return NA for rows where ALL values are missing (base `rowMeans()` returns `NaN`, base `rowSums()` returns `0`).

Usage

```
rowMeans(x, na.rm = TRUE, all_na = NULL, dims = 1L, ...)
```

```
rowSums(x, na.rm = TRUE, all_na = NULL, dims = 1L, ...)
```

Arguments

<code>x</code>	A numeric matrix or data frame.
<code>na.rm</code>	Logical. Should missing values be removed? Default TRUE.
<code>all_na</code>	Character. What to do when all values are NA: "error" (default) throws an error, "base" returns what base R does with <code>na.rm = TRUE</code> (NaN for <code>rowMeans()</code> , 0 for <code>rowSums()</code>), "na" returns NA. If NULL, uses <code>getOption("tidyna.all_na", "error")</code> .
<code>dims</code>	Integer. Number of dimensions to treat as rows.
<code>...</code>	Additional arguments passed to the base function.

Value

A numeric or complex array of suitable size, or a vector if the result is one-dimensional.

Examples

```
mat <- matrix(c(1, NA, 3, NA, NA, NA), nrow = 2, byrow = TRUE)
rowSums(mat)

# Compare to base R:
base::rowSums(mat, na.rm = TRUE)
```

summary-functions	<i>NA-aware Summary Functions</i>
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Description

Drop-in replacements for summary functions that default to `na.rm = TRUE` and warn when missing values are removed.

Usage

```
mean(x, na.rm = TRUE, all_na = NULL, ...)

sum(x, na.rm = TRUE, all_na = NULL, ...)

prod(x, na.rm = TRUE, all_na = NULL, ...)

sd(x, na.rm = TRUE, all_na = NULL, ...)

var(x, na.rm = TRUE, all_na = NULL, ...)

median(x, na.rm = TRUE, all_na = NULL, ...)

quantile(x, na.rm = TRUE, all_na = NULL, ...)
```

Arguments

x	A numeric vector.
na.rm	Logical. Should missing values be removed? Default TRUE.
all_na	Character. What to do when all values are NA: "error" (default) throws an error, "base" returns what base R does with na.rm = TRUE (e.g., NaN for mean(), 0 for sum()), "na" returns NA. If NULL, uses getOption("tidyna.all_na", "error").
...	Additional arguments passed to the base function.

Value

The computed summary statistic.

Examples

```
x <- c(1, 2, NA, 4)
mean(x)

# Suppress warnings
options(tidyna.warn = FALSE)
mean(x)
options(tidyna.warn = TRUE)

# Control all-NA behavior
mean(c(NA, NA), all_na = "na")
```

table-functions	<i>NA-aware Table Function</i>
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Description

Drop-in replacement for table() that defaults to useNA = "ifany", showing NA counts when present.

Usage

```
table(..., useNA = "ifany")
```

Arguments

...	Objects to cross-tabulate.
useNA	Whether to include NA values. Default "ifany".

Value

A contingency table of class table.

Examples

```
x <- c("a", "b", NA, "a", NA)
table(x)
```

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