Package: nseq (via r-universe)

November 1, 2024

Title Count of Sequential Events

Version 0.1.1

Description Count the occurrence of sequences of values in a vector that meets certain conditions of length and magnitude. The method is based on the Run Length Encoding algorithm, available with base R, inspired by A. H. Robinson and C. Cherry (1967) <doi:10.1109/PROC.1967.5493>.

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RoxygenNote 7.3.1

Imports checkmate

Suggests testthat (>= 3.0.0), ggplot2, dplyr

Config/testthat/edition 3

Config/Needs/website rmarkdown

URL https://rfsaldanha.github.io/nseq/

BugReports https://github.com/rfsaldanha/nseq/issues

Repository https://rfsaldanha.r-universe.dev

RemoteUrl https://github.com/rfsaldanha/nseq

RemoteRef HEAD

RemoteSha 7381484d79546bf12d9fd62196fce25a36fbf429

Contents

shift *Shifts vector values to right or left*

Description

Shifts vector values to right or left

Usage

```
shift(x, n, invert = FALSE, default = NA)
```

Arguments

x	Vector for which to shift values
n	Number of places to be shifted. Positive numbers will shift to the right by default. Negative numbers will shift to the left by default. The direction can be inverted by the invert parameter.
invert	Whether or not the default shift directions should be inverted.
default	The value that should be inserted by default.

Value

a vector.

Examples

```
# Lag
shift(c(2,3,5,6,7), n = 1, default = 0)
# Lead
shift(c(2,3,5,6,7), n = -1, default = 0)
```

trle *Run Length Encoding and return result as a data frame*

Description

Given a tibble object and a variable y, this function will count the number of occurrence of each element in y in the sequence that they appear, and return this count as a tibble object.

Usage

```
trle(x)
```

Arguments

x	a vector.

Value

a data.frame object.

See Also

rle()

Examples

```
trle(c(8,15,20,0,0,0,0,5,9,12))
```

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trle_cond *Count the number of events in a sequence*

Description

This function will count the occurrence of sequential events that meets some conditions.

Usage

```
trle_cond(x, a_op = "gte", a, b_op = "gte", b, isolated = FALSE)
```

Arguments

x	numeric vector.
a_op, b_op	character. Operator, gte = greater than or equal, lte = less than or equal, gt = greater than, lt = less than, e = equal.
a	integer. Length of period threshold.
b	integer. Value threshold.
isolated	logical. Consider only isolated events, i.e. surrounded by zeros. On this case, a and a_op are not considered.

Details

Example: In a vector, how many sequences have at least 3 consecutive observations (a_op = "gte", a = 3) with values equal or greater than 5 (b_op = "gte", b = 5)?

Value

a numeric value.

Examples

```
# How many sequences have at least 3 consecutive observations with value equal or greater than 5?
trle_cond(x = c(8,15,20,0,0,0,0,5,9,12), a_op = "gte", a = 3, b_op = "gte", b = 5)
```

`trle_cond_stat` *Statistics of events in a sequence*

Description

This function will compute statistics of sequential events that meets some conditions.

Usage

```
trle_cond_stat(x, b, b_op, stat)
```

Arguments

`x`	numeric vector.
`b`	integer. Value threshold.
`b_op`	character. Operator, `gte` = greater than or equal, `lte` = less than or equal, `gt` = greater than, `lt` = less than, `e` = equal.
`stat`	character. A statistic to be calculated. One of: max, min, mean, median, sd, var.

Details

Example: in a vector, what is the maximum size of sequences with values equal or greater than 5?

Value

a numeric value

Examples

```
# What is the maximum size of sequences with values equal or greater than 5?
trle_cond_stat(c(4,6,6,4,7,8,9), b = 5, b_op = "gte", stat = "max")
```

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