Package 'BoardGames'

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Type Package

Title Board Games and Tools for Building Board Games

Version 1.0.0

Description Tools for constructing board/grid based games, as well as readily available game(s) for your entertainment.

Depends R (>= 3.0.2)

License GPL (>= 2)

LazyData TRUE

RoxygenNote 5.0.1

NeedsCompilation no

Author Derek Qiu [aut, cre]

Maintainer Derek Qiu <qiu.derek.d@gmail.com>

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R topics documented:

detect_seq *Detects if a certain sequence is present in a matrix.*

Description

This function allows for the detection of a particular sequence in a matrix.

Usage

```
detect_seq(data, sequence, reps, diag = TRUE)
```

Arguments

data	A matrix.
sequence	The desired sequence to search for.
reps	Number of repetitions of the sequence.
diag	Do you want to search diagonals? Defaults to TRUE.

Examples

```
M = matrix(sample(c(1,2),25,replace=TRUE),5,5)
detect_seq(data = M, sequence = "2", reps = 5)
#or equivalently
detect_seq(data = M, sequence = "22222", reps = 1)
```

get_cols *Get all column vectors of a matrix.*

Description

This function extracts all column vectors of a matrix and returns the result as a list.

Usage

```
get_cols(data)
```

Arguments

data	Matrix from which to extract column vectors.

Examples

```
M = matrix(rnorm(9),3,3)
get_cols(M)
```

get_diags *Get all diagonals vectors of a matrix.*

Description

This function extracts all diagonal vectors of a matrix and returns the result as a list.

Usage

```
get_diags(data, direction = "right")
```

Arguments

data	Matrix from which to extract diagonal elements
direction	Which side to begin on? Takes values of one of "left", "right" or "both". Defaults to "right".

Examples

```
M = matrix(rnorm(9),3,3)
get_diags(M)
```

get_rows *Get all row vectors of a matrix.*

Description

This function extracts all row vectors of a matrix and returns the result as a list.

Usage

```
get_rows(data)
```

Arguments

data	Matrix from which to extract row vectors.

Examples

```
M = matrix(rnorm(9),3,3)
get_rows(M)
```

get_surround *Get surrounding elements of an element in a matrix.*

Description

This function extracts all surrounding elements of a specified element in a matrix and returns the result as a vector.

Usage

```
get_surround(data, index, type = "all")
```

Arguments

data	Matrix.
index	Index position of element. Input as a vector of row then column positions.
type	Takes values of "direct" and "all". "direct" returns only the elements directly in contact with the specified element, whereas "all" returns every surrounding element including diagonals. Defaults to "all".

Examples

```
M = matrix(1:20,4,5)
get_surround(data = M, index = c(2,3))
```

index2xy *Converts a matrix index into a sex of x,y coordinates.*

Description

This function converts a matrix index into unit x,y plotting coordinates.

Usage

```
index2xy(data, index)
```

Arguments

data	Matrix or data frame.
index	A vector of index values.

Examples

```
M = matrix(1:20,4,5)
index2xy(data = M, index = c(3,4))
```

is_palindrome *Palindrome checker.*

Description

This function checks if the supplied vector is a palindrome (reads the same forwards and backwards).

Usage

```
is_palindrome(x, case.sensitive = FALSE)
```

Arguments

x	Numeric or character vector.
case.sensitive	Does upper or lower casing matter? Defaults to FALSE.

Examples

```
test1 = 123
test2 = "12321"
test3 = c("a",1,2,3,2,1,"a")
is_palindrome(test1)
is_palindrome(test2)
is_palindrome(test3)
```

UltimateTicTacToe *Play some Ultimate Tic-Tac-Toe?*

Description

This function allows one to play the Ultimate version of Tic-Tac-Toe. In the Regular version of Tic-Tac-Toe, players take turns placing their marks, with the objective of achieving three marks in a row in any direction. 9x9 Tic-Tac-Toe or more commonly known as Ultimate Tic-Tac-Toe, adds a twist on the regular version of Tic-Tac-Toe that most of us have come to know. Perceive the board as a big Tic-Tac-Toe board, with the goal being to achieve 3 big marks in any direction. Big marks are achieved by winning the corresponding small Tic-Tac-Toe blocks. The player to move first may play anywhere on the board. However, following moves must correspond to the same big Tic-Tac-Toe block of the small Tic-Tac-Toe board where the last move was played.

Usage

```
UltimateTicTacToe()
```

xy2index *Converts a set of x,y coordinates into a matrix index.*

Description

This function converts a set of unit x,y coordinates into a matrix index.

Usage

```
xy2index(data, x, y)
```

Arguments

data	Matrix or data frame.
x	x-coordinate
y	y-coordinate

Examples

```
M = matrix(1:20,4,5)
xy2index(data=M, x=3, y=2)
```

Index