

# Package ‘diagonals’

May 8, 2026

**Title** Block Diagonal Extraction or Replacement

**Version** 6.4.0

**Description** Several tools for handling block-matrix diagonals and similar constructs are implemented. Block-diagonal matrices can be extracted or removed using two small functions implemented here. In addition, non-square matrices are supported. Block diagonal matrices occur when two dimensions of a data set are combined along one edge of a matrix. For example, trade-flow data in the 'decompr' and 'gvc' packages have each country-industry combination occur along both edges of the matrix.

**Depends** R (>= 2.10)

**License** GPL-3

**URL** <https://qua.st/diagonals>, <https://github.com/bquast/diagonals>

**BugReports** <https://github.com/bquast/diagonals/issues>

**Suggests** testthat, knitr, rmarkdown

**VignetteBuilder** knitr

**RoxygenNote** 7.1.1

**Encoding** UTF-8

**NeedsCompilation** no

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**Repository** CRAN

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 diagonals

*diagonals*


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### Description

Several tools for handling block-matrix diagonals and similar constructs are implemented. Block-diagonal matrices can be extracted or removed using two small functions implemented here. In addition, non-square matrices are supported. Block diagonal matrices occur when two dimensions of a data set are combined along one edge of a matrix. For example, trade-flow data in the `decompr` and `gvc` packages have each country-industry combination occur along both edges of the matrix.

### Author(s)

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### See Also

<https://qua.st/diagonals>

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 fatdiag

*Fat Matrix Diagonals*


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### Description

Fat Matrix Diagonals

fatdiag set

### Usage

```
fatdiag(x = 1, steps = NULL, size = NULL, nrow = NULL, ncol = NULL)
```

```
fatdiag(x, steps = NULL, size = NULL, on_diagonal = TRUE) <- value
```

### Arguments

<code>x</code>	a matrix where the dimensions are integer multiples of <code>size</code> or integer divisors of <code>steps</code>
<code>steps</code>	the required number of steps (block matrices) across the diagonal
<code>size</code>	the width or height of the matrix being dropped over the diagonal of matrix <code>x</code>
<code>nrow</code>	the number of rows
<code>ncol</code>	the number of columns
<code>on_diagonal</code>	should the operation be applied to the elements on the fat diagonal.
<code>value</code>	replacement value

**Details**

Either steps or size is expected to be provided.

**Functions**

- fatdiag<-: the set version of fatdiag

**Examples**

```
fatdiag(12, steps=3)

( m <- matrix(111, nrow=6, ncol=9) )
fatdiag(m, steps=3) <- 5

fatdiag(m, steps=3)

fatdiag(12, size=4)

fatdiag(12, size=c(3,4) )
```

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split\_vector

*Split Vector*

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**Description**

Split Vector

**Usage**

```
split_vector(x, steps = NULL, size = NULL, replacement = 0)
```

**Arguments**

x	a numeric or character vector
steps	the number of steps
size	the size of the step
replacement	value to be inserted on the diagonal, by default this is zero (0).

**Details**

Either steps or size is expected to be provided.

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