

# Package ‘di’

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**Type** Package

**Title** Deficit Index (DI)

**Version** 1.1.4

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**Description** A set of utilities for calculating the Deficit (frailty) Index (DI) in gerontological studies.

The deficit index was first proposed by Arnold Mitnitski and Kenneth Rockwood and represents a proxy measure of aging and also can be served as

a sensitive predictor of survival. For more information, see

(i) ``Accumulation of Deficits as a Proxy Measure of Aging"

by Arnold B. Mitnitski et al. (2001),

The Scientific World Journal 1, <[DOI:10.1100/tsw.2001.58](#)>;

(ii) ``Frailty, fitness and late-life mortality in relation to chronological and biological age"

by Arnold B Mitnitski et al. (2001),

BMC Geriatrics2002 2(1), <[DOI:10.1186/1471-2318-2-1](#)>.

**RoxygenNote** 6.0.1

**Suggests** knitr, rmarkdown

**VignetteBuilder** knitr

**Imports** scales

**Depends** R (>= 3.3)

**Encoding** UTF-8

**License** GPL-3

**NeedsCompilation** no

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**Repository** CRAN

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| di | <i>This function calculates the Deficit Index (DI) and returns results as list: di a column-vector containing deficit indexes for each individual and columns that were used to calculate the di.</i> |
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## Description

This function calculates the Deficit Index (DI) and returns results as list: di a column-vector containing deficit indexes for each individual and columns that were used to calculate the di.

## Usage

```
di(dat, cols = NULL, invert = NULL, rescale = TRUE, age = NULL,
   rescale.custom = NULL, rescale.avoid = NULL, bins = 7,
   visible = FALSE)
```

## Arguments

|                |                                                                                           |
|----------------|-------------------------------------------------------------------------------------------|
| dat            | A data frame. Required parameter.                                                         |
| cols           | A list of column names. Default: NULL.                                                    |
| invert         | A list of columns which have to be inverted. Default: NULL.                               |
| rescale        | A flag that tell the program to rescale columns if the values are not 0/1. Default: TRUE. |
| age            | A name of column which represents age of a patient. Default: NULL.                        |
| rescale.custom | A custom rescaling. See example below. Default: NULL.                                     |
| rescale.avoid  | A set of column names for which rescaling should be avoided. Default: NULL.               |
| bins           | A number of bins for plotting the DI against age from a dataset. Default: 7.              |
| visible        | A flag to show DI plot (mean DI in a population by age) Default: FALSE                    |

## Value

A list of two: di a column-vector containing deficit indexes for each individual and columns (rescaled if flag rescale was set to TRUE) that were used to calculate the di.

## Examples

```
library(di)
dd <- data.frame(subj=seq(1:100),
                 var1=rbinom(100,1,.5),
                 var2=rbinom(100,1,.5),
                 var3=rbinom(100,1,.5))
ddi <- di(dd, c("var1", "var2", "var3"))

# Custom rescaling
ddi <- di(dd, c("var1", "var2", "var3"), rescale.custom=c("var1:0.1:0.5"))
ddi
```

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