



DEVELOPING R PACKAGES

Introduction to roxygen2

Aimée Gott

Education Practice Lead, Mango Solutions

Help files

```
sample_from_data {simutils}
```

[R Documentation](#)

Sample from data

Description

Samples rows from a dataset.

Usage

```
sample_from_data(data, size, replace = TRUE)
```

Arguments

| | |
|----------------------|--|
| <code>data</code> | A data frame or matrix from which rows are to be sampled |
| <code>size</code> | Numeric. Number of rows to return |
| <code>replace</code> | Logical. Sample with replacement? TRUE by default. |

Details

This function has been designed to sample from the rows of a two dimensional data set, returning all columns of sampled rows. Sampling is done with replacement by default.

Value

A data set of the same type as input with `size` rows.

Author(s)

Nic Crane



roxygen headers

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#' by default.
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#' @param data A data frame or matrix from which rows are to be sampled
#' @param size Numeric. Number of rows to return
#' @param replace Logical. Sample with replacement? TRUE by default.
#'
#' @author Nic Crane
#'
#' @import dplyr
#'
#' @return A data set of the same type as input with \code{size} rows.
#' @export
#'
#' @examples
#' sample_from_data(airquality, size=10)
sample_from_data <- function(data, size, replace=TRUE) {

  if(!is.numeric(size)){
    stop("size must be a numeric value")
  }

  if(is.matrix(data)){
    data = as.data.frame(data)
  }
}
```

Title

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Imports

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```




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What Does Exporting a Function Mean and Why Do It?

Nic Crane

Data Science Consultant, Mango Solutions



Exported Functions

Exported functions:

- visible to the end user
- key package functionality

Non-exported functions:

- not visible to end user
- utility functions



Exported and Non Exported Functions

```
#' Count NAs in a vector
#'  
#' @param x A vector  
#'  
#' @return Number of NAs in x  
#'  
#' @examples  
#' sumNa(airquality$Ozone)  
sum_na <- function(x) {  
  sum(is.na(x))  
}
```

Exported and Non Exported Functions

```
#' Count all NAs in a data set
#'  
#' @param data A data frame or matrix  
#'  
#' @import purrr  
#'  
#' @return Vector of NA counts  
#' @export  
#'  
#' @examples  
#' na_counter(airquality)  
#'  
na_counter <- function(data) {  
  
  stopifnot(is.matrix(data) | is.data.frame(data))  
  
  if(is.matrix(data)){  
    data = as.data.frame(data)  
  }  
  
  map_int(data, sum_na)  
}
```



Exported and Non-Exported Functions

```
library(simutils)
na_counter(airquality)
```

| Ozone | Solar.R | Wind | Temp | Month | Day |
|-------|---------|------|------|-------|-----|
| 37 | 7 | 0 | 0 | 0 | 0 |



Calling Non-Exported Functions

```
library(simutils)
sum_na(airquality$Ozone)
```

```
Error: could not find function "sum_na"
```



Calling Non-Exported Functions

```
simutils:::sum_na(airquality$Ozone)
```


Exporting Functions with roxygen Headers

```
#' Count all NAs in a data set
#'  
#' @param data A data frame or matrix  
#'  
#' @import purrr  
#'  
#' @return Vector of NA counts  
#' @export  
#'  
#' @examples  
#' na_counter(airquality)  
#'  
na_counter <- function(data) {  
  
  stopifnot(is.matrix(data) | is.data.frame(data))  
  
  if(is.matrix(data)){  
    data = as.data.frame(data)  
  }  
  
  map_int(data, sum_na)  
}
```



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What Other Elements Can We Document with roxygen Headers?

Aimée Gott

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Documenting Examples

```
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#'#' @export
#'#' @examples
#'#' sample_from_data(airquality, size=10)
```



Non-Running Examples

```
#' Count NAs in a vector
#'  
#' @param x A vector
#'  
#' @return Number of NAs in x
#'  
#' @examples  
#' \dontrun{  
#'   sum_na(airquality$Ozone)  
#' }  
sum_na <- function(x) {  
  sum(is.na(x))  
}
```

Documenting Function Return Values

```
#' Sample from data
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```

Additional Documentation

```
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#
# Samples rows from a dataset.
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#' @export
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#' @examples
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```



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Documenting a Package

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Data Science Consultant, Mango Solutions

Package Level Documentation

```
#' simutils: A package for performing common simulation tasks
#'  
#'  
#' This package provides functionality for a variety of simulation tasks,  
#' and plotting tools for viewing the results.  
#'  
#' @author Nic Crane \email{ncrane@mango-solutions.com}  
#' @docType package  
#' @name simutils  
"_PACKAGE"
```



Minimum Level of Documentation

For each function, document:

- Title
- Description
- Arguments
- Exported (for exported functions only)



Documenting Data Objects

```
use_data(sim_dat, pkg = "simutils")
```

Documenting Data Objects

```
#' sim_dat data set  
#'  
#' We made some data for the package  
#'  
#' @format A data.frame with 3 columns  
#' \describe{  
#'   \item{ID}{ID value}  
#'   \item{Value}{Measured value in pounds}  
#'   \item{Apples}{Logical. Do they like apples}  
#' }  
#' @source Simulated Data  
#'  
"sim_dat"
```



Creating man Files

```
document("simutils")
```



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