iemisc: Additional Examples from GNU Octave size Compatible Functions

Irucka Embry, E.I.T. (EcoC²S)

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Contents

size Examples (R style)

```r
library("iemisc")

import::from(gsubfn, list)
import::from(ramify, mat)

# Example from GNU Octave ndims function reference
```

```r
size(matlab::ones(4, 1, 2, 1))
```

```
## [1] 4 1 2
```

```r
# Examples from GNU Octave size function reference

object1 <- matrix(c(1, 2, 3, 4, 5, 6), nrow = 3, ncol = 2, byrow = TRUE)

size(object1)
```

```
## [1] 3 2
```

```r
list[nr, nc] <- size(matrix(c(1, 2, 3, 4, 5, 6), nrow = 3, ncol = 2, byrow = TRUE))
nr
```

```
## [1] 3
```

```r
nc
```

```
## [1] 2
```

```r
size(matrix(c(1, 2, 3, 4, 5, 6), nrow = 3, ncol = 2, byrow = TRUE), 2)
```

```
## [1] 2
```

```r
# using ramify's mat

size(mat("1, 2; 3, 4; 5, 6"))
```

```
## [1] 3 2
```

```r
size(mat("1, 2; 3, 4; 5, 6"), 2)
```

```
## [1] 2
```

```r
list[nr, nc] <- size(mat("1, 2; 3, 4; 5, 6"))
nr
```

```
## [1] 3
```

```r
nc
```

```
## [1] 2
```

```r
size(matlab::ones(4, 3, 4, 8), 4)
```

```
## [1] NA
```

```r
size(matlab::ones(4, 3, 4, 5), 3)
```

```
## [1] 4
```

```
## The following can't be done currently with this function:
```

```r
# list[nr, remainder] <- size(matlab::ones(2, 3, 4, 5)); nr; remainder
```

```
## As a work around to get similar results to GNU Octave, do the following:
```

```r
nr <- size(matlab::ones(2, 3, 4, 5), 1)
nr
```

```
## [1] 2
```

```
remainder <- size(matlab::ones(2, 3, 4, 5), 2)
remainder
```

```
## [1] 60
# Examples from pracma size
```

```
size(1:8)
```

```
## [1] 1 8
size(matrix(1:8, 2, 4))
```

```
## [1] 2 4
size(matrix(1:8, 2, 4), 2)
```

```
## [1] 4
size(matrix(1:8, 2, 4), 3)
```

```
## [1] NA
ss <- "object"
```

```
size(ss)
```

```
## [1] 1 6
```

size Examples (GNU Octave style)

```
% check against GNU Octave
```

```
% Example from GNU Octave ndims function reference
```

```
size(ones(4, 1, 2, 1))
```

```
% Examples from GNU Octave size function reference
```

```
object1 = [1, 2; 3, 4; 5, 6]
```

```
size(object1)
```

```
[nr, nc] = size([1, 2; 3, 4; 5, 6])
```

```
size([1, 2; 3, 4; 5, 6], 2)
```

```
size([1 2; 3 4; 5 6])
```

```
size([1 2; 3 4; 5 6], 2)
```

```
[nr, nc] = size([1, 2; 3, 4; 5, 6])
```

```
nr
nc

size(ones(2, 3, 4, 5))

[nr, remainder] = size(ones(2, 3, 4, 5))
nr
remainder

size(ones(4, 3, 4, 8), 4)

size(ones(4, 3, 4, 5), 3)




% Examples from pracma size

size(1:8)

object2 = [1 3 5 7; 2 4 6 8]

size(object2)

size(object2, 2)

size(object2, 3)

ss = 'object'

size(ss)

## ans =
##
##     4    1    2
##
## object1 =
##
##     1    2
##     3    4
##     5    6
##
## ans =
##
##     3    2
##
## nr =  3
## nc =  2
## ans =  2
## ans =
##
##     3    2
##
## ans =  2
```

```
## nr =  3
## nc =  2
## nr =  3
## nc =  2
## ans =
##
##    2   3   4   5
##
## nr =  2
## remainder =  60
## nr =  2
## remainder =  60
## ans =  8
## ans =  4
## ans =
##
##    1   8
##
## object2 =
##
##    1   3   5   7
##    2   4   6   8
##
## ans =
##
##    2   4
##
## ans =  4
## ans =  1
## ss = object
## ans =
##
##    1   6
```

length_octave Examples (R style)

```
library("iemisc")

import::from(matlab, ones)

# Example from pracma isempty

object1 <- matrix(0, 1, 0)

length_octave(object1)

## [1] 0
object2 <- 2

length_octave(object2)
```

```
## [1] 1
object3 <- 1:10

length_octave(object3)

## [1] 10
object4 <- ones(3, 4)

length_octave(object4)

## [1] 4
object5 <- "ss"

length_octave(object5)

## [1] 2
object6 <- list(letters, b <- 2)

length_octave(object6)

## [1] 2
```

length Examples (GNU Octave style)

```
% check against GNU Octave

object1 = [];

length(object1)


object2 = 2;

length(object2)


object3 = 1:10;

length(object3)


object4 = ones(3, 4);

length(object4)


object5 = 'ss';

length(object5)
```

```
## ans = 0
## ans =   1
## ans =   10
## ans =   4
## ans =   2
```

numel Examples (R style)

```r
library("iemisc")

import::from(matlab, ones)

xx <- list(1:26, 1:10)

numel(xx)
```

```
## [1] 2
```

```r
# Examples from GNU Octave numel

a <- 1

b <- ones(2, 3)

numel(a, b)
```

```
## [1] 6
```

```r
a <- 2

b <- ones(2, 3)

c <- ones(3, 4)

numel(a, b)
```

```
## [1] 6
```

```r
numel(a, b, c)
```

```
## [1] 72
```

```r
f <- matrix(c(10, 12, 23, 21, 62, 93), nrow = 2, ncol = 3, byrow = TRUE)

g <- c(2, 4)

numel(f, g)
```

```
## [1] 2
```

numel Examples (GNU Octave style)

```octave
% check against GNU Octave

xx = {1:26, 1:10}


\% Examples from GNU Octave numel
a = 1;

b = ones(2, 3);

numel(a, b)


a = 2;

b = ones(2, 3);

c = ones(3, 4);

numel(a, b)

numel(a, b, c)


f = [10 12 23; 21 62 93];

g = [2 4];

numel(f, g)
```

```
## xx =
## {
##   [1,1] =
##
##     Columns 1 through 16:
##
##        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16
##
##     Columns 17 through 26:
##
##       17   18   19   20   21   22   23   24   25   26
##
##   [1,2] =
##
##        1    2    3    4    5    6    7    8    9   10
##
## }
## warning: using continuation marker \ outside of double quoted strings is deprecated and will be remov
## ans =  6
## ans =  6
## ans =  72
```

```
## ans =  2
```

ndims Examples (R style)

```
library("iemisc")

# Examples from GNU Octave ndims

b <- matlab::ones(c(4, 1, 2, 1))

ndims(b)

## [1] 3
```

ndims Examples (GNU Octave style)

```
% check against GNU Octave

% Example from GNU Octave ndims

ndims(ones(4, 1, 2, 1))

## ans =  3
```

isrow Examples (R style)

```
library("iemisc")

# Examples

xx <- ramify::mat("1, 2")
xx

##      [,1] [,2]
## [1,]    1    2
isrow(xx)

## [1] TRUE
xy <- ramify::mat("1, 2; 3, 4")
xy
```

```
##      [,1] [,2]
## [1,]    1    2
## [2,]    3    4
isrow(xy)

## [1] FALSE
```

isrow Examples (GNU Octave style)

```
% check against GNU Octave

isrow([1 2])

isrow([1 2; 3 4])

## ans = 1
## ans = 0
```

iscolumn Examples (R style)

```
library("iemisc")

# Examples

xxx <- ramify::mat("1, 2")
xxx

##      [,1] [,2]
## [1,]    1    2
iscolumn(xxx)

## [1] FALSE

xyy <- ramify::mat("1; 2")
xyy

##      [,1]
## [1,]    1
## [2,]    2
iscolumn(xyy)

## [1] TRUE
```

iscolumn Examples (GNU Octave style)

```
% check against GNU Octave

iscolumn([1 2])

iscolumn([1; 2])

## ans = 0
## ans = 1
```

Works Cited

Design Guide No. 1110-1-3: Air Stripping Engineering and Design Appendix D: Example Air Stripping By Packed Column, Department Of The Army U.S. Army Corps of Engineers, 31 October 2001, pages D-1 - D-18, http://www.publications.usace.army.mil/Portals/76/Publications/EngineerDesignGuides/DG_1110-1-3.pdf?ver=2013-08-16-101222-003.

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