

iemisc: Additional Examples from GNU Octave size Compatible Functions

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Contents

size Examples (R style)	1
size Examples (GNU Octave style)	3
length__octave Examples (R style)	6
length Examples (GNU Octave style)	7
numel Examples (R style)	8
numel Examples (GNU Octave style)	9
ndims Examples (R style)	11
ndims Examples (GNU Octave style)	11
isrow Examples (R style)	12
isrow Examples (GNU Octave style)	12
iscolumn Examples (R style)	13
iscolumn Examples (GNU Octave style)	13
Works Cited	13
EcoC²S Links	14
Copyright and License	14

size Examples (R style)

```
library("iemisc")

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

# Example from GNU Octave ndims function reference
```

```

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

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

## [1] 3
nc

## [1] 2
size(matrix(c(1, 2, 3, 4, 5, 6), nrow = 3, ncol = 2, byrow = TRUE), 2)

## [1] 2
# using ramify's mat

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

## [1] 3 2
size(mat("1, 2; 3, 4; 5, 6"), 2)

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

## [1] 3
nc

## [1] 2
size(matlab::ones(4, 3, 4, 8), 4)

## [1] NA
size(matlab::ones(4, 3, 4, 5), 3)

## [1] 4
## The following can't be done currently with this function:

# 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:

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)


% results

>> % Example from GNU Octave ndims function reference
>>
>> size(ones(4, 1, 2, 1))
ans =

    4    1    2

>>
>>
>> % Examples from GNU Octave size function reference
>>
>> object1 = [1, 2; 3, 4; 5, 6]
object1 =

    1    2
    3    4
    5    6

```

```

>>
>> size(object1)
ans =

    3    2

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

    3    2

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

    2    3    4    5

>>
>> [nr, remainder] = size(ones(2, 3, 4, 5))
nr = 2
remainder = 60
>> nr
nr = 2
>> remainder
remainder = 60
>>
>> size(ones(4, 3, 4, 8), 4)
ans = 8
>>
>> size(ones(4, 3, 4, 5), 3)
ans = 4
>>
>>

```

```

>>
>>
>> % Examples from pracma size
>>
>> size(1:8)
ans =

    1    8

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

    1    3    5    7
    2    4    6    8

>>
>> size(object2)
ans =

    2    4

>>
>> size(object2, 2)
ans = 4
>>
>> size(object2, 3)
ans = 1
>>
>> ss = 'object'
ss = object
>>
>> size(ss)
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)
```

```
%% results
```

```
>> object1 = [];
```

```
>>
```

```
>> length(object1)
```

```
ans = 0
```

```
>>
```

```
>>
```

```
>> object2 = 2;
```

```
>>
```

```
>> length(object2)
```

```
ans = 1
```

```
>>
```

```
>>
```

```
>> object3 = 1:10;
```

```
>>
```

```
>> length(object3)
```

```
ans = 10
```

```
>>
```

```
>>
```

```
>> object4 = ones(3, 4);
```

```
>>
```

```
>> length(object4)
```

```
ans = 4
```

```
>>
```

```
>>
```

```
>> object5 = 'ss';
```

```
>>
```

```
>> length(object5)
```

```
ans = 2
```

numel Examples (R style)

```
library("iemisc")
```

```
import::from(matlab, ones)
```

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

```
numel(xx)
```



```
## [1] 2
# Examples from GNU Octave numel

a <- 1

b <- ones(2, 3)

numel(a, b)

## [1] 6
a <- 2

b <- ones(2, 3)

c <- ones(3, 4)

numel(a, b)

## [1] 6
numel(a, b, c)

## [1] 72
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)

```
% 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)

% results

>> xx = {1:26, 1:10}
xx =
{
  [1,1] =

    Columns 1 through 15:

         1         2         3         4         5         6         7         8         9        10        11        12        13        14        15

    Columns 16 through 26:

        16        17        18        19        20        21        22        23        24        25        26

  [1,2] =

         1         2         3         4         5         6         7         8         9        10

}
>>
>>
>> % Examples from GNU Octave numel
>> a = 1;
>>
>> b = ones(2, 3);
>>
>> numel(a, b)
ans = 6
>>
>>
>> a = 2;
>>
>> b = ones(2, 3);
>>
>> c = ones(3, 4);
>>
>> numel(a, b)

```

```

ans = 6
>>
>> numel(a, b, c)
ans = 72
>>
>>
>> f = [10 12 23; 21 62 93];
>>
>> g = [2 4];
>>
>> numel(f, g)
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))

% results

>> 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])

% results

>> isrow([1 2])
ans = 1
>>
>> isrow([1 2; 3 4])
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])

% results

>> iscolumn([1 2])
ans = 0
>>
>> iscolumn([1; 2])
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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