iemisc: Examples from GNU Octave Rem, Mod, and fractdiff Compatible Functions

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Contents

Rem Examples (R style)

```
library("iemisc")

# Examples from GNU Octave

x <- 23.4
y <- 20
z <- 0

Rem(x, y)

## [1] 3.4
Rem(y, x)

## [1] 20
Rem(x, z)

## [1] NaN
```

```
Rem(y, z)
```

```
## [1] NaN
```

```
Rem(z, x)
```

```
## [1] 0
```

```
Rem(z, y)
```

```
## [1] 0
```

```
Rem(-1, 3)
```

```
## [1] -1
```

```
# Examples from FreeMat

Rem(18, 12)
```

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

```
Rem(6, 5)
```

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

```
Rem(2 * pi, pi)
```

```
## [1] 0
```

```
Rem(c(1, 3, 5, 2), 2)
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    1    1    0
```

```
Rem(c(9, 3, 2, 0), c(1, 0, 2, 2))
```

```
## [1]   0 NaN   0   0
```

rem Examples (GNU Octave style)

```
% check against GNU Octave

% Examples from GNU Octave

x = 23.4

y = 20

z = 0

rem(x, y)

rem(y, x)

rem(x, z)
```

```
rem(y, z)

rem(z, x)

rem(z, y)

rem(-1, 3)


% Examples from FreeMat

rem(18, 12)

rem(6, 5)

rem(2 * pi, pi)

rem([1, 3, 5, 2], 2)

rem([9 3 2 0], [1 0 2 2])
```

```
## x =  23.400
## y =  20
## z = 0
## ans =  3.4000
## ans =  20
## ans = NaN
## ans = NaN
## ans = 0
## ans = 0
## ans = -1
## ans =  6
## ans =  1
## ans = 0
## ans =
##
##    1   1   1   0
##
## ans =
##
##      0   NaN     0     0
```

Mod_octave Examples (R style)

```
library("iemisc")

# Examples from FreeMat

Mod_octave(6, 5)
```

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

```
Mod_octave(2 * pi, pi)
```

```
## [1] 0
```

```
Mod_octave(c(1, 3, 5, 2), 2)
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    1    1    0
```

```
Mod_octave(c(9, 3, 2, 0), c(1, 0, 2, 2))
```

```
## [1] 0 3 0 0
```

```
Mod_octave(-1, 3)
```

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

mod Examples (GNU Octave style)

```
% check against GNU Octave

% Examples from FreeMat

mod(18, 12)

mod(6, 5)

mod(2*pi, pi)

mod([1, 3, 5, 2], 2)

mod([9 3 2 0], [1 0 2 2])

mod(-1, 3)
```

```
## ans =  6
## ans =  1
## ans = 0
## ans =
##
##    1   1   1   0
##
## ans =
##
##    0   3   0   0
##
## ans =  2
```

fractdiff Example (R style)

```
library("iemisc")
import::from(ramify, mat)

# values from https://github.com/simaki/fracdiff

a <- mat("1, 2, 4, 7, 0")

fractdiff(x = a, d = 0.5)

## [1]  1.000000  1.500000  2.875000  4.687500 -4.164062
```

fractdiff Example (GNU Octave style)

```
% check against GNU Octave

a = [1, 2, 4, 7, 0]

fractdiff(a, d = 0.5)

## a =
##
##    1   2   4   7   0
##
## ans =
##
##    1.0000   1.5000   2.8750   4.6875  -4.1641
```

Works Cited

John W. Eaton, David Bateman, Søren Hauberg, and Rik Wehbring (October 2021). *GNU Octave: A high-level interactive language for numerical computations: Edition 6 for Octave version 6.4.0*. https://www.gnu.org/software/octave/octave.pdf. Page 547.

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