Description Syntax Conformability Diagnostics Also see

Description

reldif(X, Y) returns the relative difference defined by

$$r = \frac{|X - Y|}{|Y| + 1}$$

calculated element by element.

mreldif(X, Y) returns the maximum relative difference and is equivalent to max(reldif(X, Y)).

mreldifsym(X) is equivalent to mreldif(X', X) and so is a measure of how far the matrix is from being symmetric (Hermitian).

mreldifre(X) is equivalent to mreldif(Re(X), X) and so is a measure of how far the matrix is from being real.

Syntax

real matrix reldif(numeric matrix X, numeric matrix Y)
real scalar mreldif(numeric matrix X, numeric matrix Y)
real scalar mreldifsym(numeric matrix X)
real scalar mreldifre(numeric matrix X)

Conformability

```
reldif(X, Y):
                X:
                          r \times c
                 Y:
                          r \times c
            result:
                          r \times c
mreldif(X, Y):
                X:
                          r \times c
                 Y:
                          r \times c
                          1 \times 1
            result:
mreldifsym(X):
                X:
                          n \times n
            result:
                          1 \times 1
mreldifre(X):
                X:
                          r \times c
            result:
                          1 \times 1
```

Diagnostics

The relative difference function treats equal missing values as having a difference of 0 and different missing values as having a difference of missing (.):

 $reldif(., .) == reldif(.a, .a) == \cdots == reldif(.z, .z) == 0$ $reldif(., .a) == reldif(., .z) == \cdots == reldif(.y, .z) == .$

Also see

[M-4] Utility — Matrix utility functions

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