isreal() — Storage type of matrix

Syntax

real scalar  isreal(transmorphic matrix X)
real scalar  iscomplex(transmorphick matrix X)
real scalar  isstring(transmorphick matrix X)
real scalar  ispointer(transmorphick matrix X)

Description

isreal(X) returns 1 if X is a real and returns 0 otherwise.
iscomplex(X) returns 1 if X is a complex and returns 0 otherwise.
isstring(X) returns 1 if X is a string and returns 0 otherwise.
ispointer(X) returns 1 if X is a pointer and returns 0 otherwise.

Remarks and examples

These functions base their results on storage type. isreal() is not the way to check whether a number is real, since it might be stored as a complex and yet still be a real number, such as $2 + 0i$. To determine whether \( x \) is real, you want to use isrealvalues(\( X \)); see \[M-5\] isrealvalues().

Conformability

isreal(X), iscomplex(X), isstring(X), ispointer(X):

\[ X: \quad r \times c \]
\[ result: \quad 1 \times 1 \]

Diagnostics

These functions return 1 or 0; they cannot fail.
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Also see

[M-5] isrealvalues() — Whether matrix contains only real values
[M-5] eltype() — Element type and organizational type of object
[M-4] utility — Matrix utility functions