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> **epsilon( ) —** Unit roundoff error (machine precision)

Description   Syntax   Remarks and examples   Conformability
Diagnostics   Also see

Description

epsilon(x) returns the unit roundoff error in quantities of size abs(x).

Syntax

>   *real scalar*   epsilon(*real scalar x*)

Remarks and examples

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On all computers on which Stata and Mata are currently implemented—which are computers following
IEEE standards—epsilon(1) is 1.0X–34, or about 2.22045e–16. This is the smallest amount by
which a real number can differ from 1.

epsilon(x) is abs(x)*epsilon(1). This is an approximation of the smallest amount by which a
real number can differ from x. The approximation is exact at integer powers of 2.

Conformability

epsilon(x):
         x: 1×1
    result: 1×1

Diagnostics

epsilon(x) returns . if x is missing.

Also see

[M-5] **edittozero( )** — Edit matrix for roundoff error (zeros)

[M-5] **mindouble( )** — Minimum and maximum nonmissing value

[M-4] **Utility** — Matrix utility functions

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