DANGER THESE ARE NOT REAL NUMBERS!

>> format short

>> x= 1 -2/3 - 1/3

x =   5.5511e-17

>> format long

>> x= 1 -2/3 - 1/3

x =   5.551115123125783e-17

>> % X is not Zero!!   TEST FOR 0 WILL FAIL

>> format rat

>> x= 1 -2/3 - 1/3

x =   1/18014398509481984

>> help format

format Set output format.

   format with no inputs sets the output format to the default appropriate

   for the class of the variable. For float variables, the default is

   format SHORT.

   format does not affect how MATLAB computations are done. Computations

   on float variables, namely single or double, are done in appropriate

   floating point precision, no matter how those variables are displayed.

   Computations on integer variables are done natively in integer. Integer

   variables are always displayed to the appropriate number of digits for

   the class, for example, 3 digits to display the INT8 range -128:127.

   format SHORT and LONG do not affect the display of integer variables.

   format may be used to switch between different output display formats

   of all float variables as follows:

    format SHORT   Scaled fixed point format with 5 digits.

    format LONG   Scaled fixed point format with 15 digits for double

            and 7 digits for single.

    format SHORTE   Floating point format with 5 digits.

    format LONGE   Floating point format with 15 digits for double and

            7 digits for single.

    format SHORTG   Best of fixed or floating point format with 5

            digits.

    format LONGG   Best of fixed or floating point format with 15

            digits for double and 7 digits for single.

    format SHORTENG Engineering format that has at least 5 digits

            and a power that is a multiple of three

format LONGENG   Engineering format that has exactly 16 significant

digits and a power that is a multiple of three.

format may be used to switch between different output display formats

of all numeric variables as follows:

  format HEX   Hexadecimal format.

  format +   The symbols +, - and blank are printed

          for positive, negative and zero elements.

          Imaginary parts are ignored.

  format BANK   Fixed format for dollars and cents.

  format RAT   Approximation by ratio of small integers. Numbers

          with a large numerator or large denominator are

          replaced by *.

format may be used to affect the spacing in the display of all

variables as follows:

  format COMPACT Suppresses extra line-feeds.

  format LOOSE   Puts the extra line-feeds back in.

Example:

   format short, pi, single(pi)

displays both double and single pi with 5 digits as 3.1416 while

   format long, pi, single(pi)

displays pi as 3.141592653589793 and single(pi) as 3.1415927.

   format, intmax('uint64'), realmax

shows these values as 18446744073709551615 and 1.7977e+308 while

   format hex, intmax('uint64'), realmax

shows them as ffffffffffffffff and 7fefffffffffffff respectively.

The HEX display corresponds to the internal representation of the value and is not the same as the hexadecimal notation in the C programming language.

See also disp, display, isnumeric, isfloat, isinteger.

Reference page for format

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