Package ‘ieeerround’

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Title Functions to set and get the IEEE rounding mode
Description A pair of functions for getting and setting the IEEE rounding mode for floating point computations.
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License GPL (>= 2)
SystemRequirements A C library with the fesetround/fegetround functions.
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R topics documented:

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ieeerround The ieeerround package

Description

These functions get and set the rounding mode for the floating point operations.
Usage

fegetround()
fegetround(rounding.mode = FE.TONEAREST)

FE.DOWNWARD
FE.UPWARD
FE.TOWARDZERO
FE.TONEAREST

Arguments

rounding.mode  The rounding mode to set. It should be one of FE.DOWNWARD, FE.UPWARD,
                FE.TOWARDZERO or FE.TONEAREST.

Details

The rounding mode determines how the result of floating-point operations is treated when the result cannot be exactly represented in the significand. Various rounding modes are provided: round to nearest (the default), round up (towards positive infinity), round down (towards negative infinity), and round towards zero.

fegetround(rounding.mode) sets the rounding mode and returns 0 if it was successful, 1 otherwise.

fegetround() returns the current rounding mode.

Author(s)

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The fenv.3 Linux manpage maintainers

Examples

fesetround(FE.UPWARD)
x <- 1/5
fesetround(FE.DOWNWARD)
y <- 1/5
print(x-y > 0)
fesetround(FE.TONEAREST)
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