

Package: ieeeround (via r-universe)

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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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SystemRequirements A C library with the fesetround/fegetround functions.

OS_type unix

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Repository <https://amato-gianluca.r-universe.dev>

RemoteUrl <https://github.com/cran/ieeeround>

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ieeeround

The ieeeround package

Description

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

Usage

```
fegetround()  
fesetround(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.

`fesetround(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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