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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'rint.3p' command

$ man rint.3p

RINT(3P) POSIX Programmer's Manual RINT(3P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

rint, rintf, rintl ? round-to-nearest integral value

SYNOPSIS

```
#include <math.h>
double rint(double x);
float rintf(float x);
long double rintl(long double x);
```

DESCRIPTION

The functionality described on this reference page is aligned with the ISO C standard. Any conflict between the requirements described here and the ISO C standard is unintentional. This volume of POSIX.1?2017 defers to the ISO C standard.

These functions shall return the integral value (represented as a dou? ble) nearest x in the direction of the current rounding mode. The cur? rent rounding mode is implementation-defined.

If the current rounding mode rounds toward negative infinity, then rint() shall be equivalent to floor(). If the current rounding mode

rounds toward positive infinity, then rint() shall be equivalent to ceil(). If the current rounding mode rounds towards zero, then rint() shall be equivalent to trunc(). If the current rounding mode rounds towards nearest, then rint() differs from round() in that halfway cases are rounded to even rather than away from zero.

These functions differ from the nearbyint(), nearbyintf(), and nearby? intl() functions only in that they may raise the inexact floating-point exception if the result differs in value from the argument.

An application wishing to check for error situations should set errno to zero and call feclearexcept(FE_ALL_EXCEPT) before calling these functions. On return, if errno is non-zero or fetestexcept(FE_INVALID | FE_DIVBYZERO | FE_OVERFLOW | FE_UNDERFLOW) is non-zero, an error has occurred.

RETURN VALUE

Upon successful completion, these functions shall return the integer (represented as a double precision number) nearest x in the direction of the current rounding mode. The result shall have the same sign as x.

If x is NaN, a NaN shall be returned.

If x is ?0 or ?Inf, x shall be returned.

ERRORS

No errors are defined.

The following sections are informative.

EXAMPLES

None.

APPLICATION USAGE

The integral value returned by these functions need not be expressible as an intmax_t. The return value should be tested before assigning it to an integer type to avoid the undefined results of an integer over? flow.

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

abs(), ceil(), feclearexcept(), fetestexcept(), floor(), isnan(), near?

byint()

The Base Definitions volume of POSIX.1?2017, Section 4.20, Treatment of Error Conditions for Mathematical Functions, <math.h>

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