Rocky Enterprise Linux 9.2 Manual Pages on command 'erf.3'

$ man erf.3

ERF(3)   Linux Programmer's Manual   ERF(3)

NAME

   erf, erff, erfl - error function

SYNOPSIS

   #include <math.h>

   double erf(double x);

   float erff(float x);

   long double erfl(long double x);

   Link with -lm.

 Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

   erf():

      _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L || _XOPEN_SOURCE

         || /* Since glibc 2.19: */ _DEFAULT_SOURCE

         || /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

   erff(), erfl():

      _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

         || /* Since glibc 2.19: */ _DEFAULT_SOURCE

         || /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

   These functions return the error function of x, defined as

      erf(x) = 2/sqrt(pi) * integral from 0 to x of exp(-t*t) dt

RETURN VALUE

   On success, these functions return the value of the error function of x, a value in the

range [-1, 1].

If x is a NaN, a NaN is returned.

If x is +0 (-0), +0 (-0) is returned.

If x is positive infinity (negative infinity), +1 (-1) is returned.

If x is subnormal, a range error occurs, and the return value is 2*x/sqrt(pi).

ERRORS

See math_error(7) for information on how to determine whether an error has occurred when calling these functions.

The following errors can occur:

Range error: result underflow (x is subnormal)

An underflow floating-point exception (FE_UNDERFLOW) is raised.

These functions do not set errno.

ATTRIBUTES

For an explanation of the terms used in this section, see attributes(7).

???

?Interface   ? Attribute   ? Value   ?

???

?erf(), erff(), erfl() ? Thread safety ? MT-Safe ?

???

CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008.

The variant returning double also conforms to SVr4, 4.3BSD.

SEE ALSO

cerf(3), erfc(3), exp(3)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at https://www.kernel.org/doc/man-pages/.

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