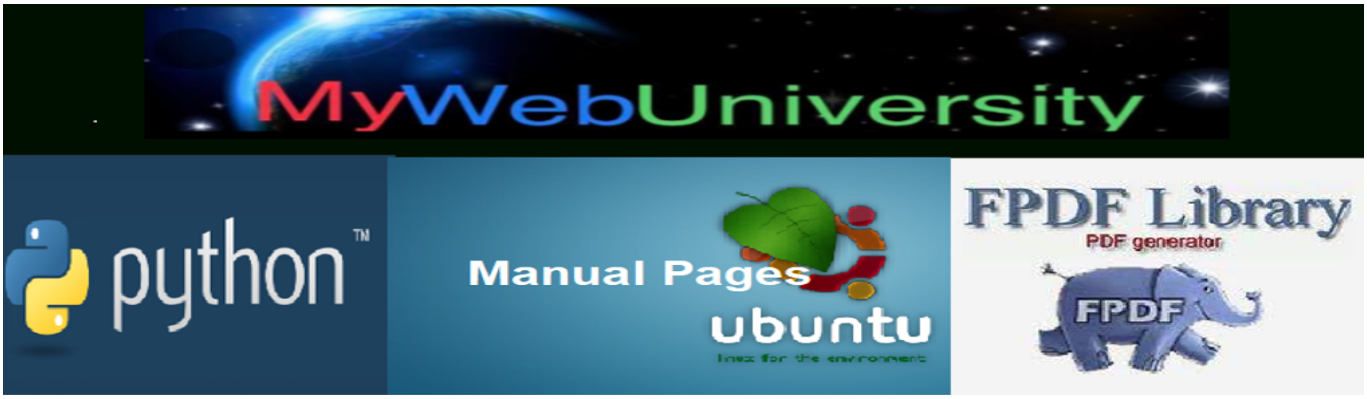

Rocky Enterprise Linux 9.2 Manual Pages on command 'erfc.3'

$ man erfc.3

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

NAME

erfc, erfcf, erfcl - complementary error function

SYNOPSIS

```
#include <math.h>

double erfc(double x);

float erfcf(float x);

long double erfcl(long double x);
```

Link with -lm.

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

erfc():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L || _XOPEN_SOURCE

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

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

erfcf(), erfcl():

_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 complementary error function of x, that is, 1.0 - erf(x).

RETURN VALUE

On success, these functions return the complementary error function of x, a value in the range [0,2].

If x is a NaN, a NaN is returned.

If x is +0 or -0, 1 is returned.

If x is positive infinity, +0 is returned.

If x is negative infinity, +2 is returned.

If the function result underflows and produces an unrepresentable value, the return value is 0.0.

If the function result underflows but produces a representable (i.e., subnormal) value, that value is returned, and a range error occurs.

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 (result 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
erfc(), erfcf(), erfcl()	Thread safety	MT-Safe

CONFORMING TO

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

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

NOTES

The erfc(), erfcf(), and erfcl() functions are provided to avoid the loss accuracy that would occur for the calculation 1-erf(x) for large values of x (for which the value of erf(x) approaches 1).

SEE ALSO

cerf(3), erf(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/.