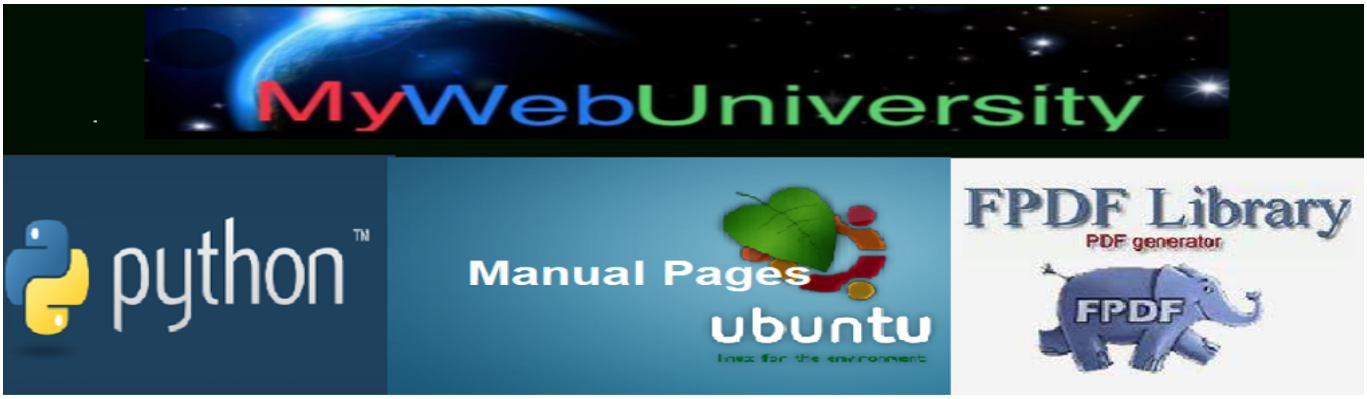

Rocky Enterprise Linux 9.2 Manual Pages on command 'fmaf.3'

$ man fmaf.3

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

NAME

fma, fmaf, fmal - floating-point multiply and add

SYNOPSIS

#include <math.h>

double fma(double x, double y, double z);

float fmaf(float x, float y, float z);

long double fmal(long double x, long double y, long double z);

Link with -lm.

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

fma(), fmaf(), fmal():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

DESCRIPTION

These functions compute x * y + z. The result is rounded as one ternary operation accord?

ing to the current rounding mode (see fenv(3)).

RETURN VALUE

These functions return the value of x * y + z, rounded as one ternary operation.

If x or y is a NaN, a NaN is returned.

If x times y is an exact infinity, and z is an infinity with the opposite sign, a domain

error occurs, and a NaN is returned.

If one of x or y is an infinity, the other is 0, and z is not a NaN, a domain error oc?

curs, and a NaN is returned.

If one of x or y is an infinity, and the other is 0, and z is a NaN, a domain error oc?

curs, and a NaN is returned.

If x times y is not an infinity times zero (or vice versa), and z is a NaN, a NaN is re?

turned.

If the result overflows, a range error occurs, and an infinity with the correct sign is

returned.

If the result underflows, a range error occurs, and a signed 0 is returned.

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:

Domain error: x * y + z, or x * y is invalid and z is not a NaN

An invalid floating-point exception (FE_INVALID) is raised.

Range error: result overflow

An overflow floating-point exception (FE_OVERFLOW) is raised.

Range error: result underflow

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

These functions do not set errno.

VERSIONS

These functions first appeared in glibc in version 2.1.

ATTRIBUTES

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

??

?Interface ? Attribute ? Value ?

??

?fma(), fmaf(), fmal() ? Thread safety ? MT-Safe ?

??

CONFORMING TO

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

SEE ALSO

remainder(3), remquo(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/.

2017-09-15 FMA(3)