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

$ man hypot.3

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

NAME

hypot, hypotf, hypotl - Euclidean distance function

SYNOPSIS

#include <math.h>

double hypot(double x, double y);

float hypotf(float x, float y);

long double hypotl(long double x, long double y);

Link with -lm.

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

hypot():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

|| _XOPEN_SOURCE

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

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

hypotf(), hypotl():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

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

DESCRIPTION

These functions return sqrt(x*x+y*y). This is the length of the hy? potenuse of a right-angled triangle with sides of length x and y, or the distance of the point (x,y) from the origin.

The calculation is performed without undue overflow or underflow during the intermediate steps of the calculation.

RETURN VALUE

On success, these functions return the length of the hypotenuse of a right-angled triangle with sides of length x and y.

If x or y is an infinity, positive infinity is returned.

If x or y is a NaN, and the other argument is not an infinity, a NaN is returned.

If the result overflows, a range error occurs, and the functions return HUGE_VAL, HUGE_VALF, or HUGE_VALL, respectively.

If both arguments are subnormal, and the result is subnormal, a range error occurs, and the correct result 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:

Range error: result overflow

errno is set to ERANGE. 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 for this case.

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

???

?hypot(), hypotf(), hypotl() ? Thread safety ? MT-Safe ?

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CONFORMING TO

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

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

SEE ALSO

cabs(3), sqrt(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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