



Linux Ubuntu 26.04 Manual Pages on command 'hypotl.3'

\$ man hypotl.3

hypot(3) Library Functions Manual hypot(3)

NAME

hypot, hypotf, hypotl - Euclidean distance function

LIBRARY

Math library (libm, -lm)

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);
```

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 <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

```
hypotf(), hypotl():
    _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
    || /* Since glibc 2.19: */ _DEFAULT_SOURCE
    || /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

DESCRIPTION

These functions return $\sqrt{x^2+y^2}$. This is the length of the hypotenuse 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.

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.

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

Range error: result overflow

Range error: result underflow

These functions do not set `errno` for this case.

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

? hypot(), hypotf(), hypotl()

STANDARDS

HISTORY

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

SEE ALSO

cabs(3), sqrt(3)

Linux man-pages 6.17

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hypot(3)