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

$ man coshf.3

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

NAME

    cosh, coshf, coshl - hyperbolic cosine function

SYNOPSIS

    #include <math.h>

    double cosh(double x);

    float coshf(float x);

    long double coshl(long double x);

    Link with -lm.

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

    coshf(), coshl():

      _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 hyperbolic cosine of x, which is defined

    mathematically as:

    $\cosh(x) = (\exp(x) + \exp(-x)) / 2$

RETURN VALUE

On success, these functions return the hyperbolic cosine of x.

If x is a NaN, a NaN is returned.

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

If x is positive infinity or negative infinity, positive infinity is returned.

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

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.

ATTRIBUTES

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

Interface	Attribute	Value
cosh(), coshf(), coshl()	Thread safety	MT-Safe

CONFORMING TO

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

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

BUGS

In glibc version 2.3.4 and earlier, an overflow floating-point (FE_OVERFLOW) exception is not raised when an overflow occurs.

SEE ALSO

acosh(3), asinh(3), atanh(3), ccos(3), sinh(3), tanh(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/.