Red Hat Enterprise Linux Release 9.2 Manual Pages on 'ldexp.3' command

$ man ldexp.3

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

NAME

  ldexp, ldexpf, ldexpl - multiply floating-point number by integral

  power of 2

SYNOPSIS

  #include <math.h>

  double ldexp(double x, int exp);

  float ldexpf(float x, int exp);

  long double ldexpl(long double x, int exp);

  Link with -lm.

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

  ldexpf(), ldexpl():

    _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 result of multiplying the floating-point

  number x by 2 raised to the power exp.

RETURN VALUE

  On success, these functions return x * (2^exp).

  If exp is zero, then x is returned.

  If x is a NaN, a NaN is returned.

  If x is positive infinity (negative infinity), positive infinity (nega?

tive infinity) is returned.

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

If the result overflows, a range error occurs, and the functions return
HUGE_VAL, HUGE_VALF, or HUGE_VALL, respectively, with a sign the same
as x.

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, overflow

errno is set to ERANGE. An overflow floating-point exception
(FE_OVERFLOW) is raised.

Range error, underflow

errno is set to ERANGE. An underflow floating-point exception
(FE_UNDERFLOW) is raised.

ATTRIBUTES

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

Interface	Attribute	Value
ldexp(), ldexpf(), ldexpl()	Thread safety	MT-Safe

CONFORMING TO

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

The variant returning double also conforms to SVr4, 4.3BSD, C89.

SEE ALSO

frexp(3), modf(3), scalbln(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/.