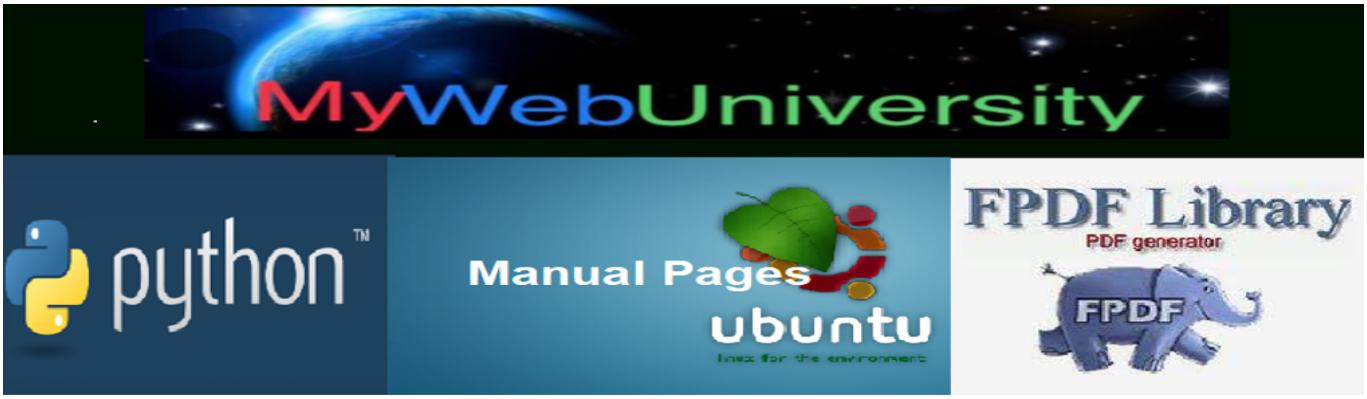

Rocky Enterprise Linux 9.2 Manual Pages on command 'ldexpf.3'

$ man ldexpf.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 (negative 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 attributes(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/.