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

$ man scalbnl.3

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

NAME

scalbn, scalbnf, scalbnl, scalbln, scalblnf, scalblnl - multiply float?

ing-point number by integral power of radix

SYNOPSIS

#include <math.h>

double scalbln(double x, long exp);

float scalblnf(float x, long exp);

long double scalblnl(long double x, long exp);

double scalbn(double x, int exp);

float scalbnf(float x, int exp);

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

Link with -lm.

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

scalbln(), scalblnf(), scalblnl():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

scalbn(), scalbnf(), scalbnl():

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

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

DESCRIPTION

These functions multiply their first argument x by FLT_RADIX (probably

2) to the power of exp, that is:

x * FLT_RADIX ** exp

The definition of FLT_RADIX can be obtained by including <float.h>.

RETURN VALUE

On success, these functions return x * FLT_RADIX ** exp.

If x is a NaN, a NaN is returned.

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

tive infinity) is returned.

If x is +0 (-0), +0 (-0) 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.

If the result underflows, a range error occurs, and the functions re?

turn zero, 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

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.

VERSIONS

These functions first appeared in glibc in version 2.1.

ATTRIBUTES

For an explanation of the terms used in this section, see at?

tributes(7).

Interface	Attribute	Value
scalbn(), scalbnf(), scalbnl(), scalbln(), scalblnf(), scalblnl()	Thread safety	MT-Safe

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CONFORMING TO

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

NOTES

These functions differ from the obsolete functions described in scalb(3) in the type of their second argument. The functions described on this page have a second argument of an integral type, while those in scalb(3) have a second argument of type double.

If FLT_RADIX equals 2 (which is usual), then scalbn() is equivalent to ldexp(3).

BUGS

Before glibc 2.20, these functions did not set errno for range errors.

SEE ALSO

ldexp(3), scalb(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/.