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

C:\>man scalb.3

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

NAME

scalb, scalbf, scalbl - multiply floating-point number by integral power of radix

(OBSOLETE)

SYNOPSIS

```
#include <math.h>

double scalb(double x, double exp);

float scalbf(float x, float exp);

long double scalbl(long double x, long double exp);
```

Link with -lm.

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

scalb():

```
_XOPEN_SOURCE >= 500
    || /* Since glibc 2.19: */ _DEFAULT_SOURCE
    || /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

scalbf(), scalbl():

```
_XOPEN_SOURCE >= 600
    || /* 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 or exp is a NaN, a NaN is returned.

If x is positive infinity (negative infinity), and exp is not negative infinity,

positive infinity (negative infinity) is returned.

If x is +0 (-0), and exp is not positive infinity, +0 (-0) is returned.

If x is zero, and exp is positive infinity, a domain error occurs, and a NaN is re?

turned.

If x is an infinity, and exp is negative infinity, a domain error occurs, and a NaN

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 return 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:

Domain error: x is 0, and exp is positive infinity, or x is positive infinity and

exp is negative infinity and the other argument is not a NaN

An invalid floating-point exception (FE_INVALID) is raised.

Range error, overflow

An overflow floating-point exception (FE_OVERFLOW) is raised.

Range error, underflow

An underflow floating-point exception (FE_UNDERFLOW) is raised.

These functions do not set errno.

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

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?scalb(), scalbf(), scalbl() ? Thread safety ? MT-Safe ?

??

CONFORMING TO

scalb() is specified in POSIX.1-2001, but marked obsolescent. POSIX.1-2008 removes the specification of scalb(), recommending the use of scalbln(3), scalblnf(3), or scalblnl(3) instead. The scalb() function is from 4.3BSD.

scalbf() and scalbl() are unstandardized; scalbf() is nevertheless present on sev? eral other systems

SEE ALSO

ldexp(3), scalbln(3)

COLOPHON

This page is part of release 5.05 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/.