NAME

fmod, fmodf, fmodl − floating-point remainder function

SYNOPSIS

#include <math.h>

double fmod(double *x*, **double** *y*);
float fmodf(float *x*, **float** *y*);
long double fmodl(long double *x*, **long double** *y*);

Link with *−lm*.

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

fmodf(), **fmodl**():
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

These functions compute the floating-point remainder of dividing *x* by *y*. The return value is *x* − *n* * *y*, where *n* is the quotient of *x* / *y*, rounded toward zero to an integer.

RETURN VALUE

On success, these functions return the value *x* − *n***y*, for some integer *n*, such that the returned value has the same sign as *x* and a magnitude less than the magnitude of *y*.

If *x* or *y* is a NaN, a NaN is returned.

If *x* is an infinity, a domain error occurs, and a NaN is returned.

If *y* is zero, a domain error occurs, and a NaN is returned.

If *x* is +0 (−0), and *y* is not zero, +0 (−0) is returned.

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 an infinity
errno is set to **EDOM** (but see BUGS). An invalid floating-point exception (**FE_INVALID**) is raised.

Domain error: *y* is zero
errno is set to **EDOM**. An invalid floating-point exception (**FE_INVALID**) is raised.

ATTRIBUTES

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

Interface	Attribute	Value
fmod(), **fmodf**(), **fmodl**()	Thread safety	MT-Safe

CONFORMING TO

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

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

BUGS

Before version 2.10, the glibc implementation did not set *errno* to **EDOM** when a domain error occurred for an infinite *x*.

SEE ALSO

remainder(3)

COLOPHON

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