

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: */ _DE-
FAULT_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

This page is part of release 4.16 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/>.