

**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
<b>fmod()</b> , <b>fmodf()</b> , <b>fmodl()</b>	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/>.