## NAME

modf, modff, modfl − extract signed integral and fractional values from floating-point number

## SYNOPSIS

**#include <math.h>**

**double modf(double** *x*, **double ****iptr*);
**float modff(float** *x*, **float ****iptr*);
**long double modfl(long double** *x*, **long double ****iptr*);

Link with *−lm*.

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

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

## DESCRIPTION

These functions break the argument *x* into an integral part and a fractional part, each of which has the same sign as *x*. The integral part is stored in the location pointed to by *iptr*.

## RETURN VALUE

These functions return the fractional part of *x*.

If *x* is a NaN, a NaN is returned, and **iptr* is set to a NaN.

If *x* is positive infinity (negative infinity), +0 (−0) is returned, and **iptr* is set to positive infinity (negative infinity).

## ERRORS

No errors occur.

## ATTRIBUTES

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

| Interface | Attribute | Value |
|---|---|---|
| **modf**(), **modff**(), **modfl**() | Thread safety | MT-Safe |

## CONFORMING TO

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

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

## SEE ALSO

**frexp**(3), **ldexp**(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/.