

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():
```

```
  _BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 600 || _ISOC99_SOURCE ||
```

```
  _POSIX_C_SOURCE >= 200112L;
```

```
  or cc -std=c99
```

DESCRIPTION

The `modf()` function breaks 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

The `modf()` function returns 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

Multithreading (see [pthreads\(7\)](#))

The `modf()`, `modff()`, and `modfl()` functions are thread-safe.

CONFORMING TO

C99, POSIX.1-2001. The variant returning *double* also conforms to SVr4, 4.3BSD, C89.

SEE ALSO

[frexp\(3\)](#), [ldexp\(3\)](#)

COLOPHON

This page is part of release 3.74 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 <http://www.kernel.org/doc/man-pages/>.