

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(), modff():
```

```
_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 5.02 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/>.