

**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: */ _DE-
FAULT_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
<code>modf()</code> , <code>modff()</code> , <code>modfl()</code>	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 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/>.