



## ***Rocky Enterprise Linux 9.2 Manual Pages on command 'ilogb.3'***

**C:\>man ilogb.3**

ILOGB(3)                      Linux Programmer's Manual                      ILOGB(3)

### NAME

ilogb, ilogbf, ilogbl - get integer exponent of a floating-point value

### SYNOPSIS

```
#include <math.h>
```

```
int ilogb(double x);
```

```
int ilogbf(float x);
```

```
int ilogbl(long double x);
```

Link with -lm.

Feature Test Macro Requirements for glibc (see feature\_test\_macros(7)):

ilogb():

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

```
|| _XOPEN_SOURCE >= 500
```

```
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
```

```
|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

ilogbf(), ilogbl():

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

```
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
```

```
|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

### DESCRIPTION

These functions return the exponent part of their argument as a signed integer.

When no error occurs, these functions are equivalent to the corresponding `logb(3)`

functions, cast to int.

## RETURN VALUE

On success, these functions return the exponent of x, as a signed integer.

If x is zero, then a domain error occurs, and the functions return FP\_ILOGB0.

If x is a NaN, then a domain error occurs, and the functions return FP\_ILOGBNAN.

If x is negative infinity or positive infinity, then a domain error occurs, and the functions return INT\_MAX.

## 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 0 or a NaN

An invalid floating-point exception (FE\_INVALID) is raised, and `errno` is set to EDOM (but see BUGS).

Domain error: x is an infinity

An invalid floating-point exception (FE\_INVALID) is raised, and `errno` is set to EDOM (but see BUGS).

## ATTRIBUTES

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

??

?Interface           ? Attribute   ? Value   ?

??

?ilogb(), ilogbf(), ilogbl() ? Thread safety ? MT-Safe ?

??

## CONFORMING TO

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

## BUGS

Before version 2.16, the following bugs existed in the glibc implementation of these functions:

- \* The domain error case where x is 0 or a NaN did not cause `errno` to be set or (on some architectures) raise a floating-point exception.
- \* The domain error case where x is an infinity did not cause `errno` to be set or raise a floating-point exception.

## SEE ALSO

`log(3)`, `logb(3)`, `significand(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/>.

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