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():
            _BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 500 ||
            _XOPEN_SOURCE && _XOPEN_SOURCE_EXTENDED || _ISOC99_SOURCE ||
            _POSIX_C_SOURCE >= 200112L;
            or *cc -std=c99*
        ilogbf(), **ilogbl**():
            _BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 600 || _ISOC99_SOURCE ||
            _POSIX_C_SOURCE >= 200112L;
            or *cc -std=c99*

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 call-
        ing these functions.

        The following errors can occur:

        Domain error: *x* is 0 or a NaN
                An invalid floating-point exception (**FE_INVALID**) is raised.

                These functions do not set *errno* for this case.

        Domain error: *x* is an infinity

                These functions do not set *errno* or raise an exception for this case.

ATTRIBUTES
    Multithreading (see pthreads(7))
        The **ilogb**(), **ilogbf**(), and **ilogbl**() functions are thread-safe.

CONFORMING TO
        C99, POSIX.1-2001.

SEE ALSO
        log(3), logb(3), significand(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/.