

NAME

ilogb, **ilogbf**, **ilogbl**, **logb**, **logbf**, **logbl** - extract exponent

LIBRARY

Math Library (libm, -lm)

SYNOPSIS

#include <math.h>

int

ilogb(*double x*);

int

ilogbf(*float x*);

int

ilogbl(*long double x*);

double

logb(*double x*);

float

logbf(*float x*);

long double

logbl(*long double x*);

DESCRIPTION

ilogb(), **ilogbf**() and **ilogbl**() return x 's exponent in integer format. **ilogb**($+\infty$) returns INT_MAX, **ilogb**($-\infty$) returns FP_ILOGBNAN, and **ilogb**(0) returns FP_ILOGB0.

logb(x), **logbf**(x), and **logbl**(x) return x 's exponent in floating-point format with the same precision as x . **logb**($+\infty$) returns $+\infty$, and **logb**(0) returns $-\infty$ with a division by zero exception.

SEE ALSO

frexp(3), ieee(3), math(3), scalbn(3)

STANDARDS

The **ilogb**(), **ilogbf**(), **ilogbl**(), **logb**(), **logbf**(), and **logbl**() routines conform to ISO/IEC 9899:1999 ("ISO C99"). The latter three implement the logb function recommended by IEEE Std 754-1985.

HISTORY

Function *First Appeared In*

logb() 4.3BSD

ilogb() FreeBSD 1.1.5

ilogbf() FreeBSD 2.0

logbf() FreeBSD 2.0

ilogbl() FreeBSD 5.4

logbl() FreeBSD 8.0