

**NAME**

**frexp**, **frexpf**, **frexpl** - convert floating-point number to fractional and integral components

**LIBRARY**

Math Library (libm, -lm)

**SYNOPSIS**

**#include** <math.h>

*double*

**frexp**(*double value*, *int \*exp*);

*float*

**frexpf**(*float value*, *int \*exp*);

*long double*

**frexpl**(*long double value*, *int \*exp*);

**DESCRIPTION**

The **frexp**(), **frexpf**() and **frexpl**() functions break a floating-point number into a normalized fraction and an integral power of 2. They store the integer in the *int* object pointed to by *exp*.

**RETURN VALUES**

These functions return the value *x*, such that *x* is a *double* with magnitude in the interval  $[1/2, 1)$  or zero, and *value* equals *x* times 2 raised to the power *\*exp*. If *value* is zero, both parts of the result are zero.

**SEE ALSO**

ldexp(3), math(3), modf(3)

**STANDARDS**

The **frexp**(), **frexpf**(), and **frexpl**() functions conform to ISO/IEC 9899:1999 ("ISO C99").