

NAME

`lround`, `lroundf`, `lroundl`, `llround`, `llroundf`, `llroundl` - round to nearest integer, away from zero

SYNOPSIS

```
#include <math.h>

long int lround(double x);
long int lroundf(float x);
long int lroundl(long double x);

long long int llround(double x);
long long int llroundf(float x);
long long int llroundl(long double x);
```

Link with `-lm`.

Feature Test Macro Requirements for glibc (see [feature_test_macros\(7\)](#)):

All functions shown above:

`_XOPEN_SOURCE >= 600 || _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L;`
or `cc -std=c99`

DESCRIPTION

These functions round their argument to the nearest integer value, rounding away from zero, regardless of the current rounding direction (see [fenv\(3\)](#)).

Note that unlike the [round\(3\)](#) and [ceil\(3\)](#), functions, the return type of these functions differs from that of their arguments.

RETURN VALUE

These functions return the rounded integer value.

If x is a NaN or an infinity, or the rounded value is too large to be stored in a `long` (`long long` in the case of the `ll*` functions), then a domain error occurs, and the return value is unspecified.

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 a NaN or infinite, or the rounded value is too large
An invalid floating-point exception (**FE_INVALID**) is raised.

These functions do not set `errno`.

VERSIONS

These functions first appeared in glibc in version 2.1.

ATTRIBUTES

Multithreading (see [pthreads\(7\)](#))

The `lround()`, `lroundf()`, `lroundl()`, `llround()`, `llroundf()`, and `llroundl()` functions are thread-safe.

CONFORMING TO

C99, POSIX.1-2001.

SEE ALSO

[ceil\(3\)](#), [floor\(3\)](#), [rint\(3\)](#), [nearbyint\(3\)](#), [rint\(3\)](#), [round\(3\)](#)

COLOPHON

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