

**NAME**

rint, rintf, rintl, llrint, llrintf, llrintl - round to nearest integer

**SYNOPSIS**

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

```
long int rint(double x);
long int rintf(float x);
long int rintl(long double x);

long long int llrint(double x);
long long int llrintf(float x);
long long int llrintl(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, using the current rounding direction (see [fesetround\(3\)](#)).

Note that unlike the [rint\(3\)](#) family of 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 [rint\(\)](#), [rintf\(\)](#), [rintl\(\)](#), [llrint\(\)](#), [llrintf\(\)](#), and [llrintl\(\)](#) functions are thread-safe.

**CONFORMING TO**

C99, POSIX.1-2001.

**SEE ALSO**

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

**COLOPHON**

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