

NAME

lrint, lrintf, lrintl, llrint, llrintf, llrintl – round to nearest integer

SYNOPSIS

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

```
long int lrint(double x);
```

```
long int lrintf(float x);
```

```
long int lrintl(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:

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

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

For an explanation of the terms used in this section, see **attributes(7)**.

Interface	Attribute	Value
lrint() , lrintf() , lrintl() , llrint() , llrintf() , llrintl()	Thread safety	MT-Safe

CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008.

SEE ALSO

ceil(3), **floor(3)**, **lround(3)**, **nearbyint(3)**, **rint(3)**, **round(3)**

COLOPHON

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