

**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
<b>lrint()</b> , <b>lrintf()</b> , <b>lrintl()</b> , <b>llrint()</b> , <b>llrintf()</b> , <b>llrintl()</b>	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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