



Linux Ubuntu 26.04 Manual Pages on command 'floor.3'

\$ man floor.3

floor(3) Library Functions Manual floor(3)

NAME

floor, floorf, floorl - largest integral value not greater than argument

LIBRARY

Math library (libm, -lm)

SYNOPSIS

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

```
double floor(double x);
```

```
float floorf(float x);
```

```
long double floorl(long double x);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

floorf(), floorl():

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

```
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
```

```
|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

DESCRIPTION

These functions return the largest integral value that is not greater than x.

For example, floor(0.5) is 0.0, and floor(-0.5) is -1.0.

RETURN VALUE

These functions return the floor of x.

If x is integral, +0, -0, NaN, or an infinity, x itself is returned.

ERRORS

No errors occur.

ATTRIBUTES

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

[illegible]

?	Interface	?	Attribute	?	Value	?
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[illegible]

? floor(), floorf(), floorl() ? Thread safety ? MT-Safe ?

[illegible]

STANDARDS

C11, POSIX.1-2008.

HISTORY

C99, POSIX.1-2001.

The variant returning double also conforms to SVr4, 4.3BSD, C89.

SUSv2 and POSIX.1-2001 contain text about overflow (which might set `errno` to `ERANGE`, or raise an `FE_OVERFLOW` exception). In practice, the result cannot overflow on any current machine, so this error-handling stuff was just nonsense. (More precisely, overflow can happen only when the maximum value of the exponent is smaller than the number of mantissa bits. For the IEEE-754 standard 32-bit and 64-bit floating-point numbers the maximum value of the exponent is 127 (respectively, 1023), and the number of mantissa bits including the implicit bit is 24 (respectively, 53).) This was removed in POSIX.1-2008.

SEE ALSO

ceil(3), lrint(3), nearbyint(3), rint(3), round(3), trunc(3)

Linux man-pages 6.17

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