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### ***Rocky Enterprise Linux 9.2 Manual Pages on command 'nextupf.3'***

#### ***\$ man nextupf.3***

NEXTUP(3)            Linux Programmer's Manual            NEXTUP(3)

#### NAME

nextup, nextupf, nextupl, nextdown, nextdownf, nextdownl - return next floating-point number toward positive/negative infinity

#### SYNOPSIS

```
#define _GNU_SOURCE    /* See feature_test_macros(7) */  
  
#include <math.h>  
  
double nextup(double x);  
  
float nextupf(float x);  
  
long double nextupl(long double x);  
  
double nextdown(double x);  
  
float nextdownf(float x);  
  
long double nextdownl(long double x);  
  
Link with -lm.
```

#### DESCRIPTION

The nextup(), nextupf(), and nextupl() functions return the next representable floating-point number greater than x.

If x is the smallest representable negative number in the corresponding

type, these functions return -0. If x is 0, the returned value is the smallest representable positive number of the corresponding type. If x is positive infinity, the returned value is positive infinity. If x is negative infinity, the returned value is the largest representable finite negative number of the corresponding type. If x is NaN, the returned value is NaN.

The value returned by nextdown(x) is -nextup(-x), and similarly for the other types.

### RETURN VALUE

See DESCRIPTION.

### VERSIONS

These functions first appeared in glibc in version 2.24.

### ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

??

?nextup(), nextupf(), nextupl(), ? Thread safety ? MT-Safe ?

?nextdown(), nextdownf(), nextdownl() ? ? ?

??

### CONFORMING TO

These functions are described in IEEE Std 754-2008 - Standard for Floating-Point Arithmetic and ISO/IEC TS 18661.

### SEE ALSO

nearbyint(3), nextafter(3)

### COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.