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## ***Red Hat Enterprise Linux Release 9.2 Manual Pages on 'clog.3' command***

### ***\$ man clog.3***

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

#### NAME

clog, clogf, clogl - natural logarithm of a complex number

#### SYNOPSIS

```
#include <complex.h>
```

```
double complex clog(double complex z);
```

```
float complex clogf(float complex z);
```

```
long double complex clogl(long double complex z);
```

Link with -lm.

#### DESCRIPTION

These functions calculate the complex natural logarithm of  $z$ , with a branch cut along the negative real axis.

The logarithm  $\text{clog}()$  is the inverse function of the exponential  $\text{cexp}(z)$ . Thus, if  $y = \text{clog}(z)$ , then  $z = \text{cexp}(y)$ . The imaginary part of  $y$  is chosen in the interval  $[-\pi, \pi]$ .

One has:

$$\text{clog}(z) = \log(\text{cabs}(z)) + I * \text{carg}(z)$$

Note that  $z$  close to zero will cause an overflow.

#### VERSIONS

These functions first appeared in glibc in version 2.1.

#### ATTRIBUTES

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

[attributes\(7\)](#).

??

?Interface           ? Attribute   ? Value ?

??

?clog(), clogf(), clogl() ? Thread safety ? MT-Safe ?

??

CONFORMING TO

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

SEE ALSO

cabs(3), cexp(3), clog10(3), clog2(3), complex(7)

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/>.

2017-09-15

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