

**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**

The logarithm **clog**() is the inverse function of the exponential [cexp\(3\)](#). 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.

**CONFORMING TO**

C99.

**SEE ALSO**

[cabs\(3\)](#), [cexp\(3\)](#), [clog10\(3\)](#), [clog2\(3\)](#), [complex\(7\)](#)

**COLOPHON**

This page is part of release 3.74 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 <http://www.kernel.org/doc/man-pages/>.