NAME

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

LIBRARY

Math library (*libm*, *−lm*)

SYNOPSIS

#include <complex.h>

double complex clog(double complex *z***);**
float complex clogf(float complex *z***);**
long double complex clogl(long double complex *z***);**

DESCRIPTION

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

The logarithm **clog**() is the inverse function of the exponential **cexp**(3). Thus, if*y = clo g(z)*, then *z = cexp(y)*. The imaginary part of*y* is chosen in the interv al [−pi,pi].

One has:

```
clog(z) = log(cabs(z)) + I * carg(z)
```

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

VERSIONS

These functions were added in glibc 2.1.

ATTRIBUTES

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

Interface	Attribute	Value
clog(), **clogf**(), **clogl**()	Thread safety	MT-Safe

STANDARDS

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

SEE ALSO

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