

NAME

cimag, cimagf, cimagl, conj, conjf, conjl, cproj, cprojf, cprojl, creal, crealf, creall - functions to manipulate complex numbers

LIBRARY

Math Library (libm, -lm)

SYNOPSIS

#include <complex.h>

double

cimag(*double complex z*);

float

cimagf(*float complex z*);

long double

cimagl(*long double complex z*);

double complex

conj(*double complex z*);

float complex

conjf(*float complex z*);

long double complex

conjl(*long double complex z*);

double complex

cproj(*double complex z*);

float complex

cprojf(*float complex z*);

long double complex

cprojl(*long double complex z*);

double

creal(*double complex z*);

float

crealf(*float complex z*);

long double

creall(*long double complex z*);

DESCRIPTION

Let $a+bi$ denote the complex number z .

The **creal**() functions return the real part a , and the **cimag**() functions return the imaginary part b .

The **conj**() functions return the complex conjugate $a-bi$.

The **cproj**() functions return the projection onto the Riemann sphere. If z contains an infinite component, then the result is *infinity* $\pm 0i$, where the (zero) imaginary part of the result has the same sign as b . Otherwise, the result is z .

These functions do not signal any floating point exceptions.

STANDARDS

The **cimag**(), **conj**(), **cproj**(), and **creal**() functions conform to ISO/IEC 9899:1999 ("ISO C99").

HISTORY

The **cimag**(), **conj**() and **creal**() functions first appeared in FreeBSD 5.3. The **cproj**() functions appeared in FreeBSD 8.0.