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+b*i* 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-b*i*.

The **cproj**() functions return the projection onto the Riemann sphere. If *z* contains an infinite component, then the result is *infinity +- 0*i*, 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.