Rocky Enterprise Linux 9.2 Manual Pages on command 'cacosf.3'

$ man cacosf.3

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

NAME

    cacos, cacosf, cacosl - complex arc cosine

SYNOPSIS

    #include <complex.h>

    double complex cacos(double complex z);

    float complex cacosf(float complex z);

    long double complex cacosl(long double complex z);

    Link with -lm.

DESCRIPTION

    These functions calculate the complex arc cosine of z. If y = cacos(z), then z = ccos(y).

    The real part of y is chosen in the interval [0,pi].

    One has:

        cacos(z) = -i * clog(z + i * csqrt(1 - z * z))

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).

    ??

    ?Interface   ? Attribute   ? Value   ?

    ??

    ?cacos(), cacosf(), cacosl() ? Thread safety ? MT-Safe ?

    ??

CONFORMING TO

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

EXAMPLES

```c
/* Link with "-lm" */

#include <complex.h>

#include <stdlib.h>

#include <unistd.h>

#include <stdio.h>

int
main(int argc, char *argv[])
{
    double complex z, c, f;
    double complex i = I;
    if (argc != 3) {
        fprintf(stderr, "Usage: %s <real> <imag>\n", argv[0]);
        exit(EXIT_FAILURE);
    }
    z = atof(argv[1]) + atof(argv[2]) * I;
    c = cacos(z);
    printf("cacos() = %6.3f %6.3f*i\n", creal(c), cimag(c));
    f = -i * clog(z + i * csqrt(1 - z * z));
    printf("formula = %6.3f %6.3f*i\n", creal(f), cimag(f));
    exit(EXIT_SUCCESS);
}
```

SEE ALSO

ccos(3), clog(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/.