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

$ man cacos.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 = ca?

   cos(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

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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/.