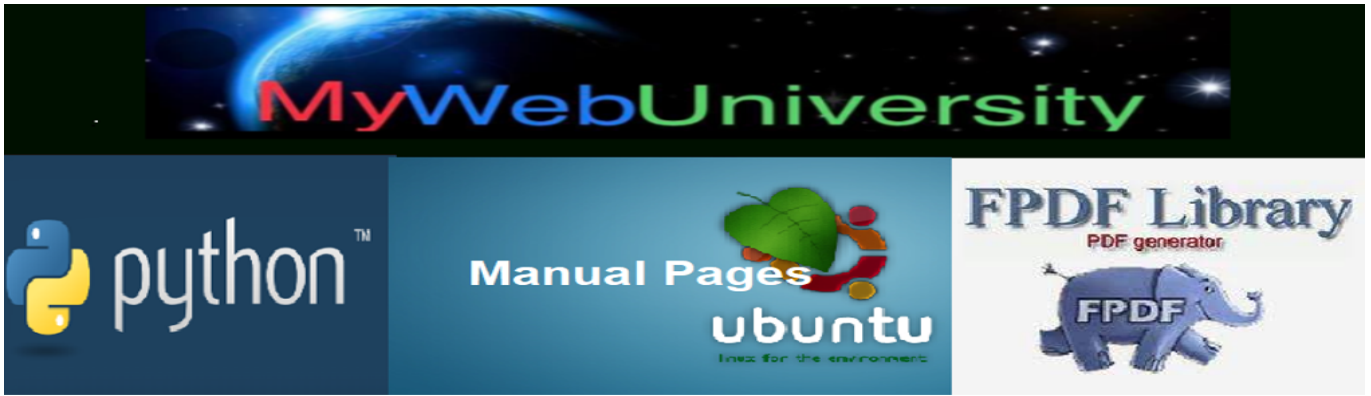




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Rocky Enterprise Linux 9.2 Manual Pages on command 'cacos.3'

\$ 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 $y = \text{cacos}(z)$, then $z = \text{ccos}(y)$. The real part of y is chosen in the interval $[0, \pi]$. One has:

$$\text{cacos}(z) = -i * \log(z + i * \text{csqrt}(1 - z * z))$$

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

```
/* 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/>.