

**NAME**

`ccos`, `ccosf`, `ccosl` – complex cosine function

**SYNOPSIS**

```
#include <complex.h>
```

```
double complex ccos(double complex z);
```

```
float complex ccosf(float complex z);
```

```
long double complex ccosl(long double complex z);
```

Link with `-lm`.

**DESCRIPTION**

These functions calculate the complex cosine of  $z$ .

The complex cosine function is defined as:

$$\operatorname{ccos}(z) = (\exp(i * z) + \exp(-i * z)) / 2$$

**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
<code>ccos()</code> , <code>ccosf()</code> , <code>ccosl()</code>	Thread safety	MT-Safe

**CONFORMING TO**

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

**SEE ALSO**

**cabs(3)**, **cacos(3)**, **csin(3)**, **ctan(3)**, **complex(7)**

**COLOPHON**

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