cacosh — Complex Arc Hyperbolic Cosine (C99) — <complex.h>

```
double complex cacosh(double complex z);
cacoshf  float complex cacoshf(float complex z);
cacoshl  long double complex cacoshl(long double complex z);
```

Returns Complex arc hyperbolic cosine of z, with a branch cut at values less than 1 along the real axis. The return value lies in a half-strip of nonnegative values along the real axis and in the interval [$-i\pi$, $+i\pi$] along the imaginary axis. *27.4*

calloc — Allocate and Clear Memory Block — <stdlib.h>

```
void *calloc(size_t nmemb, size_t size);
```

Allocates a block of memory for an array with nmemb elements, each with `size` bytes. The block is cleared by setting all bits to zero.

Returns A pointer to the beginning of the block. Returns a null pointer if a block of the requested size can't be allocated. *17.3*

carg — Complex Argument (C99) — <complex.h>

```
double carg(double complex z);
cargf  float cargf(float complex z);
cargl  long double cargl(long double complex z);
```

Returns Argument (phase angle) of z, with a branch cut along the negative real axis. The return value lies in the interval [$-\pi$, $+\pi$]. *27.4*

casin — Complex Arc Sine (C99) — <complex.h>

```
double complex casin(double complex z);
casinf  float complex casinf(float complex z);
casinl  long double complex casinl(long double complex z);
```

Returns Complex arc sine of z, with branch cuts outside the interval [-1, $+1$] along the real axis. The return value lies in a strip mathematically unbounded along the imaginary axis and in the interval [$-\pi/2$, $+\pi/2$] along the real axis. *27.4*

casinh — Complex Arc Hyperbolic Sine (C99) — <complex.h>

```
double complex casinh(double complex z);
casinhf  float complex casinhf(float complex z);
casinhl  long double complex casinhl(long double complex z);
```

Returns Complex arc hyperbolic sine of z, with branch cuts outside the interval [$-i$, $+i$] along the imaginary axis. The return value lies in a strip mathematically unbounded along the real axis and in the interval [$-i\pi/2$, $+i\pi/2$] along the imaginary axis. *27.4*

catan — Complex Arc Tangent (C99) — <complex.h>

```
double complex catan(double complex z);
catanf  float complex catanf(float complex z);
catanl  long double complex catanl(long double complex z);
```