**Headers in C**

* #include<complex.h>

1. Power function for cmplex number

float complex cpowf( float complex x, float complex y );

double complex cpow( double complex x, double complex y );

long double complex cpowl( long double complex x, long double complex y );

2.Square root of complex number

#include <stdio.h>

#include <complex.h>

int main(void)

{

double [complex](http://en.cppreference.com/w/c/numeric/complex/complex) z1 = csqrt(-4);

[printf](http://en.cppreference.com/w/c/io/fprintf)("Square root of -4 is %.1f%+.1fi**\n**", [creal](http://en.cppreference.com/w/c/numeric/complex/creal)(z1), [cimag](http://en.cppreference.com/w/c/numeric/complex/cimag)(z1));

double [complex](http://en.cppreference.com/w/c/numeric/complex/complex) z2 = csqrt([conj](http://en.cppreference.com/w/c/numeric/complex/conj)(-4)); // or, in C11, CMPLX(-4, -0.0)

[printf](http://en.cppreference.com/w/c/io/fprintf)("Square root of -4-0i, the other side of the cut, is "

"%.1f%+.1fi**\n**", [creal](http://en.cppreference.com/w/c/numeric/complex/creal)(z2), [cimag](http://en.cppreference.com/w/c/numeric/complex/cimag)(z2));

}

3.csin,ccos,ctan.....

* #include <ctype.h>

1.isalnum()

if( isalnum(var1) ) {

printf("var1 = |%c| is alphanumeric\n", var1 );

} else {

printf("var1 = |%c| is not alphanumeric\n", var1 );

}

2.isalpha()

if( isalpha(var1) ) {

printf("var1 = |%c| is an alphabet\n", var1 );

} else {

printf("var1 = |%c| is not an alphabet\n", var1 );

3.iscntrl()

4.isdigit()

int main () {

int var1 = 'h';

int var2 = '2';

if( isdigit(var1) ) {

printf("var1 = |%c| is a digit\n", var1 );

} else {

printf("var1 = |%c| is not a digit\n", var1 );

}

5.isgraph()

It prints the value of integer if it is character or numeric no blank spaces can’t be printed.

6.islower()

The C library function **int islower(int c)** checks whether the passed character is a lowercase letter.

7.isprint()

The C library function **int isprint(int c)** checks whether the passed character is printable. A printable character is a character that is not a control character.

8.ispunct()

The C library function **int ispunct(int c)** checks whether the passed character is a punctuation character. A punctuation character is any graphic character (as in isgraph) that is not alphanumeric (as in isalnum).

9.int isspace()

10.int isupper

The C library function **int isupper(int c)** checks whether the passed character is uppercase letter.

11.int isxdigit

The C library function **int isxdigit(int c)** checks whether the passed character is a hexadecimal digit.

12.int tolower()

The C library function **int tolower(int c)** converts a given letter to lowercase.

#include <stdio.h>

#include <ctype.h>

int main () {

int i = 0;

char c;

char str[] = "TUTORIALS POINT";

while( str[i] ) {

putchar(tolower(str[i]));

i++;

}

return(0);

}

13.int toupper()

The C library function **int toupper(int c)** converts lowercase letter to uppercase.