

Input & Output Statements in C

The process of giving something to the computer is known as input. Input is mostly given through keyboard. The process of getting something from the computer is known as output. Output is mostly displayed on monitors.

Types of I/O Statements

1. Formatted I/O

- scanf()
- printf()

2. Unformatted I/O

gets(), puts()
getch(),getche(),putch()
getchar(),putchar()

The functions used for input and output are stored in the header file **stdio.h**. If programmer use any of the above function it is necessary to include header file.

1. Formatted Input & Output

(i) scanf() function

The function used to get input from the user during execution of program and stored in a variable of specified form is called scanf() function.

Syntax: scanf("format string",& variable name);

where

format string: format specifier is written

&: address operator

Types:

- Single input e.g scanf("%d",&a);
- Multiple input scanf("%d %c %d", &a,&op,&b);|

Example

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main ()
```

```
{
```

```
int a;
clrscr();
printf("Enter integer value:");
scanf("%d",&a);
printf("\nThe value you enter = %d",a);
getch();
}
```

Output

```
Enter integer value: 5
The value you enter =5
```

(ii) printf ()Function

This function is used to display text, constant or value of variable on screen in specified format.

Syntax: printf("format string", argument list);

Types:

- printf("hello world"); // Printf()with no argument list
- printf("the value of integar=%d",a); //Printf() with one argument
- printf("Sum of %d+%d=%d",a,b,a+b); //Printf()with more than one argument

Example:

```
#include<stdio.h>
#include<conio.h>
void main ()
{
printf("HELLO WORLD!");
getch();
}
```

Output

```
HELLO WORLD!
```

2. Unformatted Input & Output

(i) gets()

This special function is used to input string values from the user during execution of the program. As the user press enter key when typing after the string. A null character (\0) is automatically entered at the end of the string.

Syntax: gets (variable name);

(ii) puts function

The function used to display the string value on the screen.

Syntax: puts(parameter/value/variable);

Example:

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    char
    name[15];
    clrscr();
    printf("enter your name:");
    gets(name);
    printf("\n your name is:");
    puts(name);
    getch();
}
```

Output:

```
enter your name: somebody
your name is: somebody
```

(iii) getch()

getch() is used to get a character from console but does not echo to the screen. It reads a single character directly from the keyboard, without echoing to the screen.

Syntax char ch;

```
ch = getch();
```

Program

```
#include <stdio.h>
```

```
void main()
{
    char ch;
    ch = getch();
    printf("Input Char Is :%c",ch);
}
```

(iv) getche()

getche() is used to get a character from console, and echoes to the screen. getche reads a single character from the keyboard and echoes it to the current text window, using direct video or BIOS.

Syntax

```
char ch;
ch = getche();
```

Program

```
#include <stdio.h>
void main()
{
    char ch;
    ch = getche();
    printf("Input Char Is :%c",ch);
}
```

(v) putchar()

putch displays any alphanumeric characters to the standard output device. It displays only one character at a time.

Syntax putchar(variable_name);

Example char ch = 'a';
putch(ch)

Program

```
#include <stdio.h>
void main()
{
    char ch='a';
    putchar(ch);
}
```

```
}
```

(vi) getchar()

The getchar function is a part of the standard C input/output library. It returns a single character from a standard input device (typically a keyboard). The function does not require any arguments, though a pair of empty parentheses must follow the word getchar.

Syntax character variable = getchar();

where character variable refers to some previously declared character variable.

(vii) putchar()

The putchar function like getchar is a part of the standard C input/output library. It transmits a single character to the standard output device (the computer screen).

Syntax putchar(character variable)

Where : character variable refers to some previously declared character variable.

Program

```
#include <stdio.h>
void main( )
{
    int c;
    printf( "Enter a value :");
    c = getchar( );
    printf( "\nYou entered: ");
    putchar( c );
}
```

Enter a value: this is test

You entered: t