

SIES: BASIC C PROGRAMMING

L #14: INPUT & OUTPUT

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Outline

- Input & Output

Input & Output

Standard Files

■ Standard files

- C programming language treats all the devices as files.
- So devices such as the display are addressed in the same way as files.
- The following three files are automatically opened when a program executes to provide access to the keyboard and screen.
- To do these work in C programming, we use the file pointers.

Standard File	File Pointer		Device	
Standard input	stdin		Keyboard	
Standard output	stdout		Screen	
Standard error	stderr		Your screen	

Input & Output

■ Input

- The **Input** means to **feed some data into a program**.
- C programming language provides a set of built-in functions to **read** given input and **feed** it to the program as per requirement.

■ Output

- The **Output** means to **display some data on a screen, printer or in any file**.
- C programming language provides a set of built-in functions to **output** the data on the computer screen as well as you can save that data in text or binary files.

getchar() & putchar() functions

■ int getchar() functions

- The int getchar(void) function reads the next available character from the screen and returns it as an integer.
- This function reads only single character at a time.

■ int putchar() functions

- The int putchar(int c) function puts the passed character on the screen and returns the same character.
- This function puts only single character at a time.

```
1  #include <stdio.h>
2  int main()
3  {
4      int c;
5      printf("Enter a value :");
6      c = getchar();
7      printf("\nYou entered: ");
8      putchar(c);
9      return 0;
10 }
```

Case 1

```
Select C:\Users\SBLEE\source\repos\
Enter a value :Say hello~!
You entered: S
```

Case 2

```
1  #include <stdio.h>
2  int main()
3  {
4      int c;
5      printf("Enter a value :");
6      c = getchar();
7      printf("\nYou entered: ");
8      putchar(c);
9      return 0;
10 }
```

```
C:\Users\SBLEE\source\repos\Project1\D
Enter a value :This is a test.
You entered: T
```

scanf() & printf() functions

■ int scanf(const char* format, ...) functions

- The int scanf(const char* format, ...) function reads input from the standard input stream **stdin** and scans that input according to **format provided**.

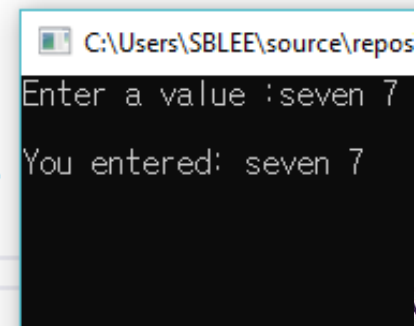
■ int printf(const char* format, ...) functions

- The int printf(const char *format, ...) function writes output to the standard output stream **stdout** and produces output according to a **format provided**.

■ format

- The **format** can be a simple constant string, but you can specify %s, %d, %c, %f, etc., to print or read **strings (%s), integer (%d), character(%c) or float(%f)** respectively.

```
1  #define _CRT_SECURE_NO_WARNINGS
2
3  #include <stdio.h>
4  int main()
5  {
6      char str[100];
7      int i;
8      printf("Enter a value :");
9      scanf("%s %d", str, &i); //scanf is equal to scanf_c.
10     //scanf("%s %d", str, &i);
11     printf("\nYou entered: %s %d ", str, i);
12     return 0;
13 }
```



```
C:\Users\SBLEE\source\repos
Enter a value :seven 7
You entered: seven 7
```

Thank You