

Format Specifier -:

·It is the way to tell the compiler what type of data is in a variable during taking input and displaying output to the user.

·Some Examples :

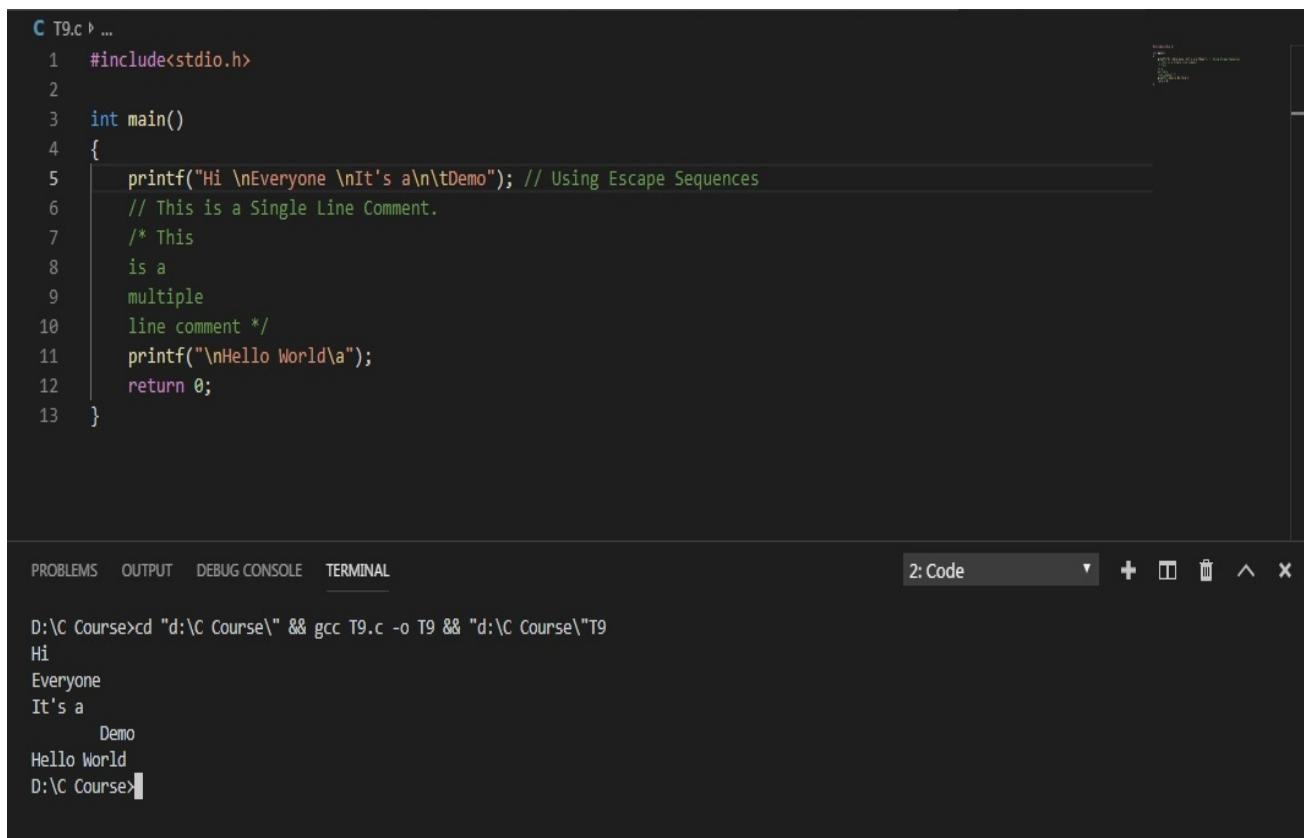
%c – character

·We use // (double backslash to write single line comment).

·E.g. // This is a comment.

- Multi Line Comment : Multi Line comment are the comments which are created by using multiple lines i.e. they occupy more than one line in the program.

·We use /* Comment*/ for writing multi line comment.



The image shows a code editor window with a C program and a terminal window below it. The code in the editor is as follows:

```
1 #include<stdio.h>
2
3 int main()
4 {
5     printf("Hi \nEveryone \nIt's a\n\tDemo"); // Using Escape Sequences
6     // This is a Single Line Comment.
7     /* This
8     is a
9     multiple
10    line comment */
11    printf("\nHello World\n");
12    return 0;
13 }
```

The terminal window shows the output of the program:

```
D:\C Course>cd "d:\C Course\" && gcc T9.c -o T9 && "d:\C Course\T9
Hi
Everyone
It's a
    Demo
Hello World
D:\C Course>
```

That's all about Format Specifiers, Constants, Comments and Escape Sequences in C Language.

- %d – Integer
- %f – float
- %l – long integer
- %lf – double
- %Lf – long double Etc.

·printf(“The marks of Ram is %a.bf”,variable); will print variable with ‘b’ decimal points in ‘a’ character space.

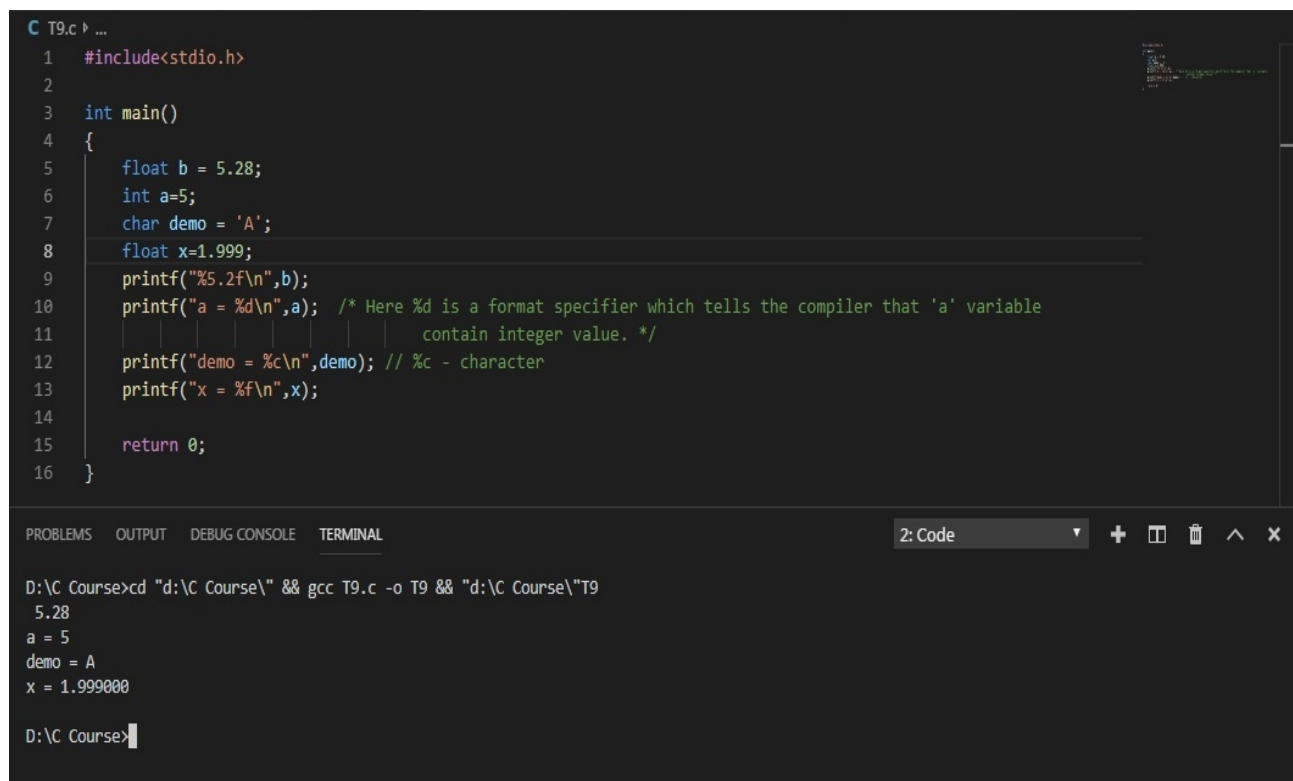
Example : float b=7.28

```
printf(“%5.2f\n”,b);
```

- It means in 5 character space with 2 decimal place accuracy print variable b.

Output : _5.28

- So, Format Specifiers are used to tell the compiler about type of data during input and output.



```
C T9.c ▶ ...
1  #include<stdio.h>
2
3  int main()
4  {
5      float b = 5.28;
6      int a=5;
7      char demo = 'A';
8      float x=1.999;
9      printf("%5.2f\n",b);
10     printf("a = %d\n",a); /* Here %d is a format specifier which tells the compiler that 'a' variable
11                            contain integer value. */
12     printf("demo = %c\n",demo); // %c - character
13     printf("x = %f\n",x);
14
15     return 0;
16 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 2: Code + - X

```
D:\C Course>cd "d:\C Course\" && gcc T9.c -o T9 && "d:\C Course\"T9
5.28
a = 5
demo = A
x = 1.999000
D:\C Course>
```

Constants -:

- A **constant** is a value or variable that can't be changed in the program.
- It means anything whose value is fixed i.e. which can't be changed or manipulated is known as constant.

- **There are two ways to define constant in C :**

1. const keyword
2. #define pre-processor

1) const keyword – const keyword can be used with any variable to make the value of that variable constant so that it can't be changed later on in the program.

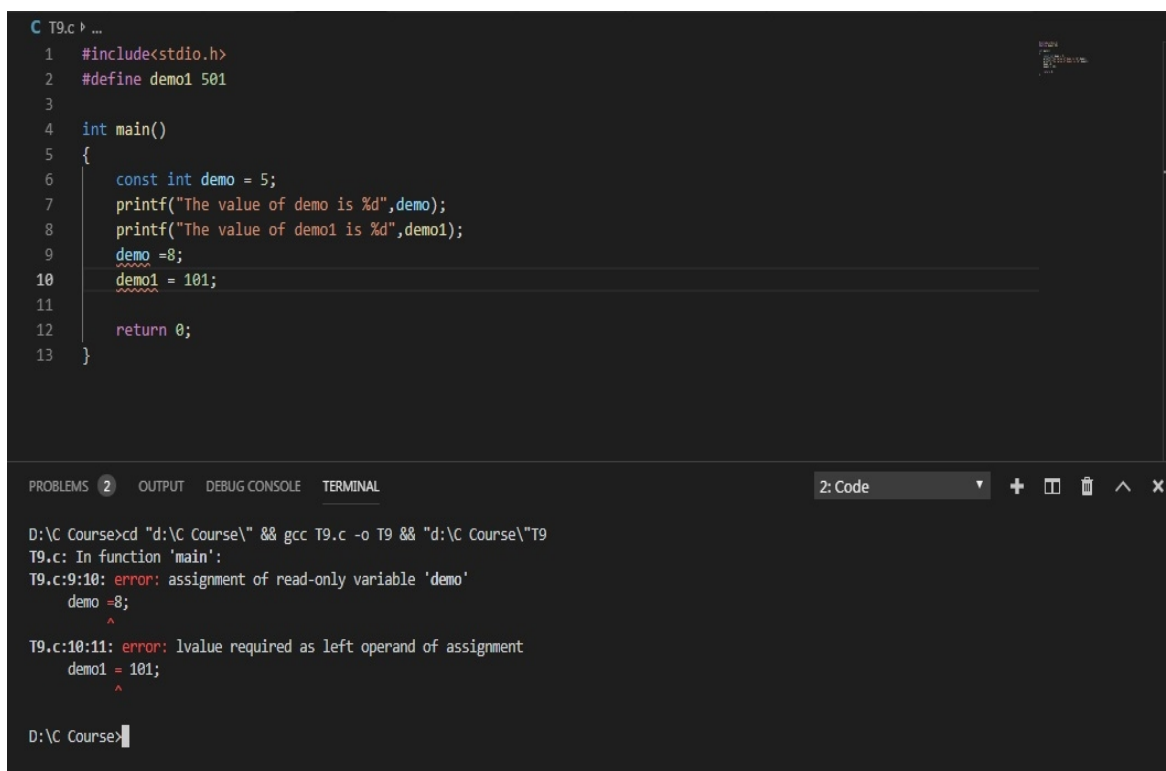
• Example : `const int demo = 5;`

- It means we have made a constant int variable. So now we can't change the value of 'demo' variable later on in our program.

2) #define preprocessor : #define command is used to define any variable globally i.e. we can define any variable and can put some value in it so that its value will not change in whole program.

• Example : `#define demo1 501`

- It means we have defined the value of demo1 as 501 and we can't change the value of demo1 variable later on in the program.



```
C T9.c ▶ ...
1  #include<stdio.h>
2  #define demo1 501
3
4  int main()
5  {
6      const int demo = 5;
7      printf("The value of demo is %d",demo);
8      printf("The value of demo1 is %d",demo1);
9      demo =8;
10     demo1 = 101;
11
12     return 0;
13 }
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL 2: Code

```
D:\C Course>cd "d:\C Course\" && gcc T9.c -o T9 && "d:\C Course\T9
T9.c: In function 'main':
T9.c:9:10: error: assignment of read-only variable 'demo'
    demo =8;
    ^
T9.c:10:11: error: lvalue required as left operand of assignment
    demo1 = 101;
    ^
D:\C Course>
```

Escape Sequences -:

- An **Escape Sequence** in C programming language is a sequence of characters.
- It doesn't represent itself when used inside string literal or character.
- It is composed of two or more characters starting with backslash \.

Escape Sequence	Meaning
\a	Alarm or Beep
\b	Backspace
\f	Form Feed
\n	New Line
\r	Carriage Return
\t	Tab (Horizontal)
\v	Vertical Tab
\\	Backslash
\'	Single Quote
\"	Double Quote
\?	Question Mark
\nnn	octal number
\xhh	hexadecimal number
\0	Null

Comments in C Language -:

- Comments are used to make the code more understandable for programmer.
- Comments are not executed by compiler.
 - **There are 2 methods to write comment in C Language -:**
 1. Single Line Comment
 2. Multi Line Comment
 - Single Line Comment : Single Line comment are the comments which are created in single line only i.e. they occupy the space of single line only.