**Programming with C Language**

**Tutorial 2**

1. How do you write comments in a c program? What is the purpose of comments in a program?

* There are two ways to write comments in C Programming one Is Single Line and other one is to span comment on multiple lines.

Single line ( //) – Single line comments start with two forward slashes (//). Any text between // and the end of the line is ignored by the compiler (will not be executed)

* Comment that spans Multiple lines ( /\* - \*/) – The compiler will assume that everything after the /\* symbol Is comment until it reaches the \*/ symbol, even if it spans multiple lines within the c Program.

2. Which is the function that is essential in a C program?

* Main( ) - Without main function file will not be executed

3. What is the purpose of ‘scanf’ ?

* Scanf is used to take inputs from the user. It reads formatted input from the standard input such as keyboard.

4. Is ‘standard c’ a case sensitive language?

* The c language is a case sensitive. This means that all language keywords, identifiers, function names, and other variables must be entered with consistent letter capitalization. C language can distinguish between upper case and lower case characters and treat the keywords and identifiers accordingly.

5. Determine which of the following are valid identifiers. If invalid, explain why.

(a) record1 (e) $tax (h) name-and-address

(b) 1record (f) name (i) name\_and\_address

(c) file-3 (g) name and address (j) 123 - 45 - 6789

(d) return

1. Valid
2. Invalid – variable cannot start with a number
3. Invalid – we cannot use hyphen between variables
4. It’s a keyword hence we cannot use it as a variable name
5. Invalid – we cannot use special characters
6. Valid
7. Invalid – there cannot be spaces for variables
8. Invalid – there cannot be hyphens during words
9. Valid
10. Invalid – we cannot represent even numbers also with hyphens

6. State whether each of the following is true or false. If false, explain why.

a) Function printf always begins printing at the beginning of a new line. – **FALSE**

b) Comments cause the computer to print the text enclosed between /\* and \*/ on the screen when the program is executed. - **FALSE**

c) The escape sequence \n when used in a printf format control string causes the cursor to position to the beginning of the next line on the screen. – **TRUE**

d) All variables must be defined before they’re used. – **TRUE**

e) All variables must be given a type when they’re defined. - **TRUE**

f) C considers the variables, number and NuMbEr to be identical. – **FALSE**

g) A program that prints three lines of output must contain three printf statements. – **FALSE**

7. What does the following code print?

printf( "\*\n\*\*\n\*\*\*\n\*\*\*\*\n\*\*\*\*\*\n" );

* \*

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8. Identify and correct the errors in each of the following statements. (Note: There may be more than one error per statement.)

a) scanf( "d", value ); - scanf( “ %d “, &value) ;

b) printf( "The product of %d and %d is %d"\n, x, y ); - printf(“The Product of %d and %d is %d \n” , x,y,z);

c) Scanf( "%d", anInteger ); - scanf(“%d” , &anInteger);

d) Printf( "Remainder of %d divided by %d is\n", x, y, x % y ); - printf( "Remainder of %d divided by %d is\n", x, y, x % y );

e) print( "The sum is %d\n," x + y ); - print( "The sum is %d\n” , x + y );

f) Printf( "The value you entered is: %d\n, &value ); - printf( "The value you entered is: %d\n “ , &value );

9. What, if anything, prints when each of the following statements is performed? If nothing prints, then answer “Nothing.” Assume x = 2 and y = 3 .

a) printf( "%d", x ); - Answer is 2

b) printf( "%d", x + x ); - 4

c) printf( "x=" ); - x=

d) printf( "x=%d", x ); - x=2

e) printf( "%d = %d", x + y, y + x ); - 5 = 5

f) z = x + y; - Nothing will print

g) scanf( "%d%d", &x, &y ); - Nothing will print

h) /\* printf( "x + y = %d", x + y ); \*/ - Nothing will print

i) printf( "\n" ); - Nothing will print

10. State which of the following are true and which are false. If false, explain your answer.

a) C operators are evaluated from left to right. - False, they are evaluated according to their precedence and associativity.

b) The following are all valid variable names: \_under\_bar\_ , m928134 , t5 , j7 , her\_sales , his\_account\_total , a , b , c , z , z2 . - True, because valid variable names are a series of underscores, letters and digits that do not start with a digit, and none of these conditions were violated

c) The statement printf("a = 5;"); is a typical example of an assignment statement. – False. , this statement will just print a = 5; to the screen. It does not perform any assignment in the program.

d) A valid arithmetic expression containing no parentheses is evaluated from left to right. – False, it will be evaluated according to their precedence and associativity.

e) The following are all invalid variable names: 3g , 87 , 67h2 , h22 , 2h – True, , h22 is a valid variable name. All of the other variable names start with digits and are therefore invalid variable names.