Programming with C Language

Tutorial 2

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

   We write comments in a c program by using // at the beginning of the comment
   The Purpose of Comments in A Program Is to Give An Idea To The Programmer Of What The Program Says/Does

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

   The Function That Is Essential In A C Program Is The Main Function

3. What is the purpose of 'scanf'?

   Purpose Of 'scanf' Is To Get User Inputs

4. Is 'standard c' a case sensitive language?

   Yes. 'Standard c' is a case sensitive language.

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

(a) record1 - Valid
(b) 1record
(c) file-3
(d) return
(e) $tax
(f) name
(g) name and address
(h) name-and-address
(i) name_and_address
(j) 123 - 45 - 6789

Valid – record1, $tax, name, name_and_address,
Invalid – 1record, file-3, return, name and address, name-and-address,123-45-6789

1record is invalid because c identifiers can't start with a number
file-3 is invalid because in c identifiers hyphens or minus signs are not allowed
return is invalid because return is reserved keyword in c
name and address is invalid because c doesn't allow spaces in identifiers
name-and-address is because in c identifiers hyphens or minus signs are not allowed
123-45-6789 is invalid because in c identifiers hyphens or minus signs are not allowed

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" );
```

```
*
**
***
****
*****
```

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); - there is no % before d and & before value

b) printf("The product of %d and %d is %d"\n, x, y); -There are 3 %d symbols but only 2 variables and the \n is written outside the “”symbol

c) Scanf("%d", anInteger); - there is no & before anInteger

d) printf("Remainder of %d divided by %d is\n", x, y, x % y); - There are 3 variables but there are only 2 %d symbols

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

f) Printf("The value you entered is: %d\n, &value); - there is no ending symbol of “ ”symbol and there is an extra & infront of 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 .

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

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

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

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

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

l) z = x + y; - Nothing

m) scanf("%d%d", &x, &y); - Nothing

h) /* printf("x + y = %d", x + y); */ - x+y=5

i) printf("\n"); - A Line break will print

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

n) C operators are evaluated from left to right. – False. It Depends On The Precedence Of The Operators

o) The following are all valid variable names: _under_bar_ , m928134 , t5 , j7 , her_sales ,

his_account_total , a , b , c , z , z2 . - True

p) The statement printf("a = 5;"); is a typical example of an assignment statement. – False. Because a=5 is only the typical example of assignment statement not printf(“a=5;”);

q) A valid arithmetic expression containing no parentheses is evaluated from left to right. - False. It Depends On The Precedence Of The Operators

r) The following are all invalid variable names: 3g , 87 , 67h2 , h22 , 2h – False. Because h22 is a valid variable name