ASSIGNMENT 1 (SOLUTION)

1. C language was developed by
   a) Dennis Ritchie
   b) Bjarne Stroustrup
   c) James Gosling
   d) Guido van Rossum

Solution: (a)

2. A 2D diagram to represent the steps to be followed to solve a problem is known as
   a) Flow-chart
   b) Pseudo-code
   c) Both (a) and (b)
   d) None of these

Solution: (a) A flow-chart is a representation of an algorithm using diagrams.

3. Which one of the following statement is the most appropriate?
   a) Flowchart is diagrammatic representation of the algorithm. Pseudo code is just another name of algorithm.
   b) Flowchart is basically a diagrammatic representation of the algorithm. Whereas in pseudo code normal English language is translated into the programming languages to be worked on.
   c) Pseudo code is basically a diagrammatic representation of the algorithm. Whereas in flowchart normal English language is translated into the programming languages to be worked on.
   d) Pseudo code is another name of programming. Whereas in flowchart is diagrammatic representation of algorithm.

Solution: (b) Flowchart is basically a diagrammatic representation of the algorithm. Whereas in pseudo code normal English language is translated into the programming languages to be worked on.

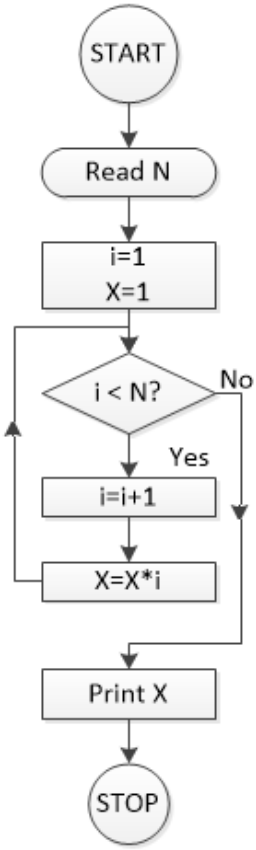
4. The ALU of a computer
   a) Can perform logical operation only
   b) Can perform arithmetic operation only
   c) Can perform both arithmetic and logical operations
   d) None of the above.

Solutions: (c) Can perform both arithmetic and logical operations

5. When we write X=10 and Y=X, which of the following memory assignment is correct
   a) X and Y will have same location and 10 will be stored.
   b) X and Y will have two distinct locations and 10 will be stored in both.
   c) X and Y will have same location and only X will contain value 10
   d) X and Y will have two distinct locations and only X will contain value 10

Solution: (b) X=10 will create a memory location for X and 10 will be stored. After declaring Y=X, a new memory location for Y will be created and the value of X will be copied in Y. This both of them will contain 10.

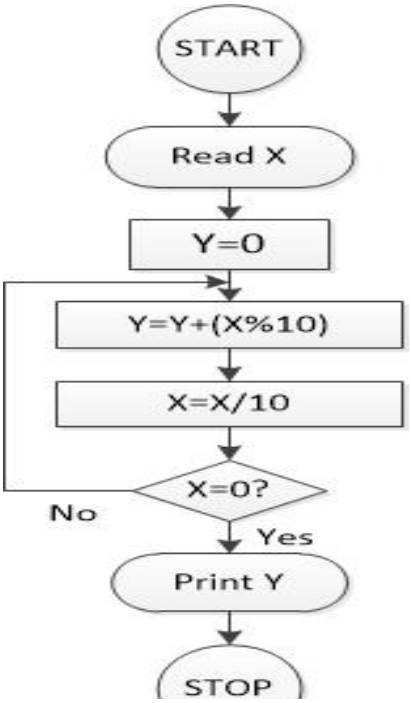
6. If input from the user (for Read N)is 6, the output of the following algorithm will be



   a) 120
   b) 720
   c) 5040
   d) 1

Solution: (b) The flowchart finds the factorial of the number 6. Hence, the right answer is 6!=720

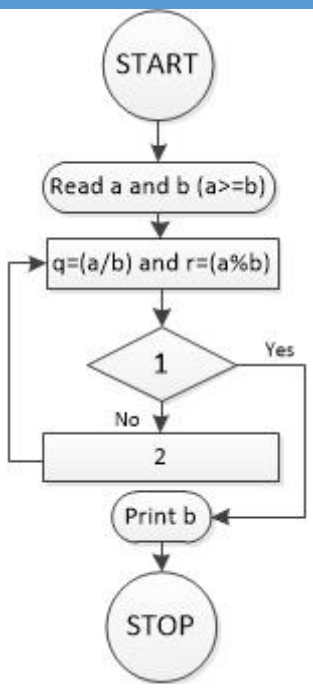
7. X is an integer (X=1234). The print value of Y of the algorithm below is (note: '%' is the modulo operator, which calculates the reminder and '/' gives the quotient of a division operation)



a) 4321
b) 10
c) 4
d) 9

Solution: (b) The flow chart calculates the sum of the digits in X. So, the right answer is 1+2+3+4=10

8. The flow chart calculates the HCF of two numbers **a** and **b** (where **a** is greater than or equal to **b**).
   Which of the following conditions need to be put inside the blanks 1 and 2 to calculate the HCF?



a) 1. r!=0
2. a=r and b=q
b) 1. q=0
2. a=b and b=r
c) 1. r=0
2. a=q and b=r
d) 1. r=0
2. a=b and b=r

Solution: (d) This is Euclidian Algorithm of finding HCF of two numbers.

9. Compiler helps in the translation from
   a) Integer to binary
   b) High-level program to binary digits
   c) High-level language to machine level language
   d) Pseudo code to computer program

Solution: (c) Compiler helps in translating from high-level language to machine level language

10. Computer memory which is used to store programs and data currently being processed by CPU is

    a) ROM
    b) RAM
    c) Cache memory
    d) PROM

Solution: (b) RAM