

1. An electronic machine can understand
 - a) English statements
 - b) Flow chart
 - c) Binary digits
 - d) Integers

Solution: (c) Only binary numbers are understood by electronic machines.

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. A Pseudo-code is
 - a) An equivalent of a flow chart
 - b) English-like statements
 - c) Steps to write a program
 - d) All the above

Solution: (d) Pseudo code is alternative to flow-chart which is used to represent an algorithm. It is written in English-like statements and it involves the steps to write a program.

4. What is algorithm?
 - a) A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.
 - b) A process or set of rules to be followed in calculations or other problem-solving operations, especially by a human.
 - c) A process or set of rules to be followed to solve numerical problems only.
 - d) A process or set of rules to be followed in to solve logical problems only.

Solution: (a) A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer

5. 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.

6. 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

7. Which of the following statement is correct?

- a) Interpreter translates program one statement at a time; compiler Scans the entire program and translates it as a whole into machine code.
- b) Compiler translates program one statement at a time, Interpreter Scans the entire program and translates it as a whole into machine code.
- c) Both Interpreter and Compiler translate one statement at a time to machine code.
- d) None of the above.

Solution: (a) Interpreter translates program one statement at a time; compiler Scans the entire program and translates it as a whole into machine code

8. C programming language uses

- a) Compiler
- b) Interpreter
- c) Both
- d) None of the above

Solution: (a) Compiler

9. The word length of a computer is measured in

- a) hexadecimal
- b) millimetres
- c) meters
- d) bits

Solution: (d) bits

10. Which part of the computer is used for calculating and comparing?

- a) Hard Disk
- b) Control unit
- c) ALU
- d) Monitor

Solution: (c) ALU

11. The correct sequence of memory access while running a computer program is

- a) RAM → DISK → RAM → CPU
- b) CPU → DISK → RAM → CPU
- c) DISK → RAM → CPU → DISK
- d) DISK → RAM → DISK → CPU

Solution: (a) While writing a program in terminal such as Turbo C, it is saved in RAM. Then we save the program in Hard Disk. While compilation, the compiler converts the high-level language to a machine level language and it is stored in RAM. The CPU access the machine level language from RAM and show the output in the in/out port. Thus the correct sequence is RAM → DISK → RAM → CPU

12. 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.

13. Which is more memory efficient?
- a) Interpreter
 - b) Compiler
 - c) Both are same
 - d) Can't say

Solution: (a) For Interpreter, no intermediate object code is generated, hence are memory efficient. Compiler generates intermediate object code which further requires linking, hence requires more memory.

14. Debugging is easier in which case?
- a) That uses Compiler
 - b) That uses Interpreter
 - c) It depends on the expertise of the programmer
 - d) None

Solution: (b) Interpreter Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy. Compiler generates the error message only after scanning the whole program. Hence debugging is comparatively hard.

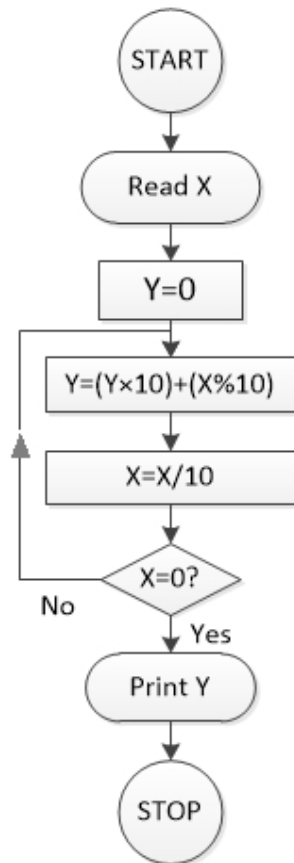
15. When we write a program, before saving and compilation, it is saved into
- a) ROM
 - b) RAM
 - c) DISK
 - d) CD

Solution: (b) Before saving the program, while writing, it is saved in RAM.

16. CPU gets the address of the next instructions from
- a) Register
 - b) RAM
 - c) Instruction Register
 - d) Program Counter

Solution: (d) Program Counter

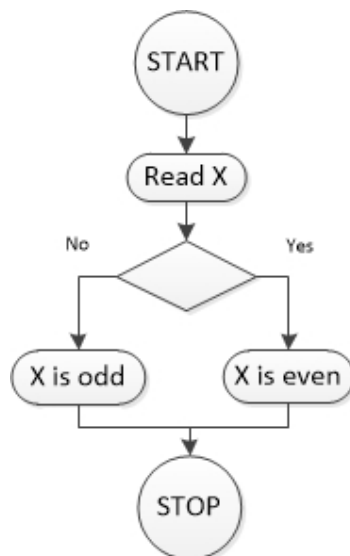
17. X is an integer ($X=1234$). The print value of Y of the algorithm below is
[Note: The modulo operator returns the remainder of the left side divided by the right side. So $5\%2$ will evaluate to 1. ($5 / 2 = 2$ remainder: 1).]



- a) 10
- b) 11223344
- c) 4321
- d) 0

Solution: (c) The algorithm finds the reverse of the number X. Hence, the output is 4321

18. The following algorithm is used to find a number X is even or odd. What will be the content of the empty box?

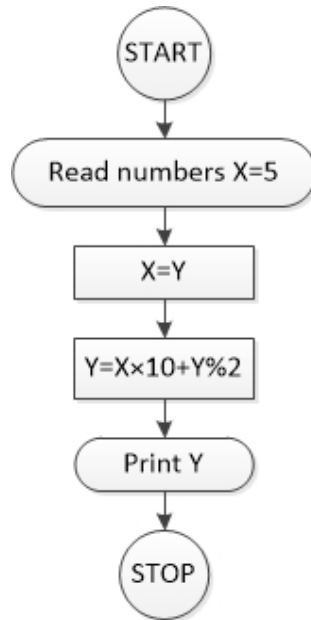


- a) $X\%10=0?$
- b) $X/10=0?$

- c) $X/2=0?$
- d) $X\%2=0?$

Solution: (d) To find whether a number is odd or even, the number has to be divided by 2. If it is equals to zero, then the number is even. Thus, $X\%2=0?$ Condition is appropriate.

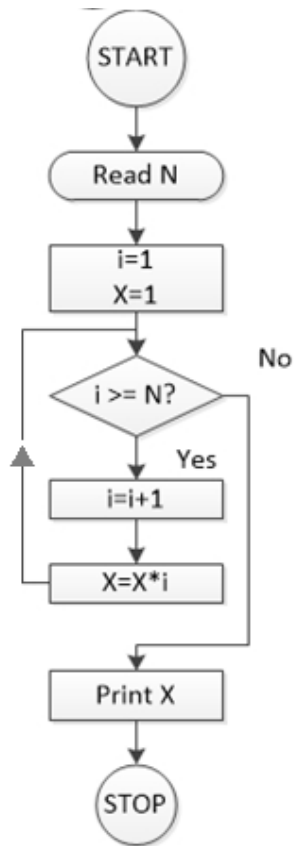
19. What will be the output of the algorithm given below?



- a) 51
- b) 52
- c) 50
- d) Compilation error

Solution: (d) The assignment $X=Y$ is incorrect. Here the "Equals to" operator assigns the value of Y to X. But the variable Y is not declared before assignment. Thus the compiler will throw error at this step.

20. The input N from the user is 6. The output of the following algorithm is



- a) 21
- b) 720
- c) 1
- d) 1024

Solution: (c) The condition " $i \geq N$ " fails in the first iteration because $i=1$ and $N=6$. Thus, the execution jumps directly to the print command. The initial assigned value of X will be printed which is 1.