

Computer Programming

1. A 8-bit signed integer has the following range

- a. 0 to 255
- b. -128 to 127
- c. -255 to 254
- d. 0 to 509

2. What will the output of the following code statements be?

Integer x = 34.54, y = 20, z = -5 print (y > 50 AND z > 10 or x > 30)

- a. 0
- b. 1
- c. -1
- d. 10

3. Annie makes a program to print the product of cubes of the first 10 whole numbers. She writes the following program

```
integer x = 0 // statement 1 integer sum = 0 //  
statement 2 while ( x < 10 ) // statement 3  
{  
    sum = x*x*x // statement 4 x = x + 1 //  
    statement 5  
}  
print sum // statement 6
```

Is her program correct? If not, which statement will you modify to correct

it?

- a. No error, the program is correct.
- b. Statement 1
- c. Statement 4
- d. statement 6

4. I have a problem to solve that takes n as an input number. The problem has a property that given the solution for $(n-1)$, I can easily solve the problem for n . Which programming technique will I use to solve such a problem?

- a. Iteration
- b. Decision-making
- c. Object Oriented Programming
- d. Recursion

5. Given

Integer $x = 40$, $y = 35$, $z = 20$, $w = 10$

Comment on the output of the following two statements

```
print x * y / z - w  
print x * y / (z - w)
```

- a. Differ by 80
- b. Same
- c. Differ by 50
- d. Differ by 160

6. In which area of a class are data and function directly accessible outside the class?

- a. Public
- b. Private
- c. Protected
- d. None of these

7. Here is an infix notation $((A+B)*C-(D-E))^{(F+G)}$ Choose the correct postfix notation of the above from the given options.

- a. $AB+CD*E--FG+^{\wedge}$
- b. $AB+C*DE--FG+^{\wedge}$
- c. $AB+C*DE-FG-+^{\wedge}$
- d. $A+BC*DE-FG-+^{\wedge}$

8. If the depth of a tree is 3 levels, then what is the size of the tree?

- a. 2
- b. 4
- c. 6
- d. 8

9. One of the following options is a form of access used to add and remove nodes from a queue.

- a. LIFO
- b. FIFO
- c. Both LIFO and FIFO
- d. None of these

10. What is the time complexity of adding three matrices of size $N \times N$ cell-by-cell?

- a. $O(N)$
- b. $O(N^2)$
- c. $O(N^3)$
- d. None of these