Sample Questions

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
   \[ \text{print } x \times y / z - w \quad \text{print } x \times y / (z - w) \]

   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 \(((A+B)\times(C-(D-E)))^{(F+G)}\). Choose the correct postfix notation of the above from the given options.

   a. \( AB+CD*E--FG^+^ \)
   b. \( AB+C*DE--FG^+^ \)
   c. \( AB+C*DE-FG++ \)
   d. \( A+BC*DE-FG++ \)
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 NXN cell-by-cell?
    a. O(N)  
    b. O(N^2)  
    c. O(N^3)  
    d. None of these