



DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2024-25
MONDAY TEST

CLASS: IX
SUBJECT: COMPUTER APPLICATIONS

TOTAL MARKS: 40
DATE: 18.11.24

Instructions:

Attempt all questions. The intended marks for questions are given in brackets []. This paper consists of four printed pages.

Question 1

Choose the correct answer from the choices given:

[6×1=6]

i) Which of the following data type cannot be used with switch case construct?

- c) int b) char c) String d) double

ii) How many times the given loop is executed?

for(int x=10;x>20;x++)

System.out.println(x);

System.out.println(x*2);

- a) 10 b) 9 c) 0 d) 11

iii) Assertion(A): The inner loop closes prior to the outer loop.

Reason(R): A nested loop means a loop within a loop. It can be applied when the internal loop repeats a given number of times for each repetition of the external loop.

- a) Both Assertion (A) and Reason (R) are true and (R) is a correct explanation of (A)
b) Both Assertion (A) and Reason (R) are true and (R) is not a correct explanation of (A)
c) Assertion (A) is true and Reason (R) is false
d) Assertion (A) is false and Reason(R) is true

iv) What output will be produced by this code segment? (Ignore spacing.)

for (int i = 5; i >= 1; i--)

{ for (int j = i; j >= 1; j--)

System.out.print(2 * j - 1);

System.out.println(); }

a) 9 7 5 3 1	b) 9 7 5 3 1	c) 9 7 5 3 1	d) 1
9 7 5 3	7 5 3 1	7 5 3 1 -1	1 3
9 7 5	5 3 1	1 -1 -3 -5 -7	1 3 5
9 7	3 1		1 3 5 7
9	1		1 3 5 7 9

v) Which of the following is an entry controlled loop?

1. for 2. while 3. do while 4. switch

- a) only 1 b) 1 and 2 c) 1, 2 and 4 d) 2 and 4

vi) The _____ statement does not terminate the loop, it just skips some part of the loop.

- a) switch b) default c) continue d) break

Question 2

- a) The given program is written to accept a number and then add all digits until you find a single digit number. If that single digit number is 1, then that number is called lucky number. (e.g. if number is 2345 then sum of its digits becomes 14, further sum of this digits is 5, so the number is not a lucky number). Fill in the blanks from 1 to 5 to fulfil the above criteria: [5]

class ques

```
{ public static void main(int number)
{   int sum, digit;
    while(number>9)
    {   sum = 0;
        while(__?1?__)
        {   digit = __?2?__;
            sum = __?3?__;
            number = __?4?__;   }
        __?5?__ = sum;   }
    if(number == 1)
        System.out.println ("Lucky Number");
    else
        System.out.println ("Not Lucky Number"); }}
```

- b) State difference between conditional construct and conditional operator with example. [2]

- c) What will be the output of the following code? Also rewrite the code using if else if construct.[1+2]

```
int fruit = 3;
switch (fruit + 1)
{
    case 1: System.out.println("Banana"); break ;
    case 2: System.out.println("Apple"); break ;
    case 3: System.out.println("Orange"); break ;
    default: System.out.println("Fruitless"); }
}
```

- d) Disha got a homework to design a pattern program and generate output but she was not able to write the correct code, help her find errors and rewrite the correct code to generate the pattern.

The homework was to generate the following pattern program:

[2]

```
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
```

The erroneous code written by her:

```
public class Pattern
{
    public static void main( )
    {
        for (int i = 5; i >= 1; i++)
        {
            for (int j = 5; j >= 1; j--)
                System.out.print( + " ");
            System.out.println(i);
        }
    }
}
```

- e) What will be the final value of sum from the given code snippet?

[2]

```
int sum = 0;
for (int i = 0; i <= 4; i++)
    for (int j = 0; j <= 4; j++)
        sum += i ;
```

Question 3

[10]

Write a program to compute and display factorials of numbers between p and q where $p > 0$, $q > 0$, and $p > q$.

Question 4

[10]

Write a program to generate a triangle or an inverted triangle till n terms based upon the user's choice of triangle to be displayed.

Example 1

Input:

Type 1 for a triangle and type 2 for an inverted triangle

1

Enter the number of terms

5

Output:

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

Example 2

Input: Type 1 for a triangle and type 2 for an inverted triangle

2

Enter the number of terms

6

Output:

6 6 6 6 6 6

5 5 5 5 5

4 4 4 4

3 3 3

2 2

1