Giri's Tech Hub Pvt.Ltd, Pune

Programming (Machine) Test

Batch: Jul-2025

Date: 11/09/2025
Time: 02:00 to 05:00 Pm

Instructions: **Set-A** **Total:- 10 Marks**

1. Solve any 9 questions.
2. Input should be from user.
3. Indentation and comments mandatory.
4. Each program 1 Marks and all comments 1 Marks.
5. Do not use any functions.

Q1. Task: For a number n, calculate:

Sum of digits at even places (from right)
Sum of digits at odd places (from right)
Finally print the difference of these sums.
Example: n = 572631 → even places sum = 7+6+1 = 14,
odd places sum = 5+2+3 = 10 → difference = 4.

Q2. Write a java program to print 1 to nth Strong number.

Q3. Write a java program to print this pattern.

```
1
2   *   2
3   *   3   *   3
4   *   4   *   4   *   4
3   *   3   *   3
2   *   2
1
```

Q4. Write a java program to print this pattern.

```
            *
        *   *   *
    *       *       *
*       *       *       *
    *       *       *
        *   *   *
            *
```

Q5. Write a Java program to display the following series using function :

3 6 12 24 48 96 192

(Each term doubles from the previous term starting at 3)

Q6. Write a java program to Check If a Number Is a Spy Number or Not spy number using function recursion.

Q7. Write a java program to find union array & intersection array of a two array.

Q8. Write a Java program to find the maximum sum of any contiguous subarray of size k from a given array.

Concept tested: Fixed-size sliding window for subarray sums.

Input: arr = [2, 1, 5, 1, 3, 2], k = 3
Output: 9
Explanation: Subarray [5,1,3] has the maximum sum = 9

Q9. Write a Java program to find the maximum of all subarrays of size k.

Example:

Input: arr = [1,3,-1,-3,5,3,6,7], k = 3
Output: [3,3,5,5,6,7]
Explanation: Each window gives a maximum →
[1,3,-1] → 3
[3,-1,-3] → 3
[-1,-3,5] → 5
[-3,5,3] → 5
[5,3,6] → 6
[3,6,7] → 7

Q10. Write a Java program to find all unique triplets in the array whose sum is zero using the two pointer technique.

Example:

Input: arr = [-1, 0, 1, 2, -1, -4]
Output: [[-1, -1, 2], [-1, 0, 1]]

-----ALL THE BEST-----