Rajalakshmi Engineering College

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 3_Q1

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Rosh is intrigued by numerical patterns. Today, she stumbled upon a puzzle while working with arrays. She wants to compute the sum of the third-largest and second-smallest elements from a list of integers. She seeks your help to implement a program that solves this for her efficiently.

Input Format

The first line of input is an integer N, representing the size of the array.

The second line of input consists of N space-separated integers, representing the elements of the array.

Output Format

The output displays a single integer representing the sum of the third-largest and second-smallest elements in the array.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 10
10 20 30 40 50 60 70 80 90 100

Output: 100

Answer

```
// You are using Java
import java.util.*;

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Read the size of the array
        int N = sc.nextInt();
        int[] arr = new int[N];

        // Read the array elements
        for (int i = 0; i < N; i++) {
            arr[i] = sc.nextInt();
        }

        // Use TreeSet to sort and remove duplicates
        TreeSet<Integer> set = new TreeSet<>();
        for (int num : arr) {
            set.add(num);
        }

        // Convert TreeSet to list for index access
        List<Integer> uniqueList = new ArrayList<>(set);

        // Get second-smallest (index 1) and third-largest (size - 3)
        int secondSmallest = uniqueList.get(1);
        int thirdLargest = uniqueList.get(uniqueList.size() - 3);

        // Print the result
```

```
        System.out.println(secondSmallest + thirdLargest);
    }
}
```

Status : Correct ***Marks : 10/10***