Rajalakshmi Engineering College

Name: Shivam Jaiswal
Email: 240701499@rajalakshmi.edu.in
Roll no: 240701499
Phone: 7318545479
Branch: REC
Department: CSE - Section 6
Batch: 2028
Degree: B.E - CSE

Scan to verify results

2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 3_Q2

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Monica is interested in finding a treasure but the key to opening is to get the sum of the main diagonal elements and secondary diagonal elements.

Write a program to help Monica find the diagonal sum of a square 2D array.

Note: The main diagonal of the array consists of the elements traversing from the top-left corner to the bottom-right corner. The secondary diagonal includes elements from the top-right corner to the bottom-left corner.

Input Format

The first line of input consists of an integer N, representing the number of rows and columns.

The following N lines consist of N space-separated integers, representing the 2D array elements.

Output Format

The first line of output prints "Sum of the main diagonal: " followed by an integer, representing the sum of the main diagonal.

The second line prints "Sum of the secondary diagonal: " followed by an integer, representing the sum of the secondary diagonal.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 3
1 2 3
4 5 6
7 8 9

Output: Sum of the main diagonal: 15
Sum of the secondary diagonal: 15

Answer

```
// You are using Java

import java.util.Scanner;
import java.util.Arrays;

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

      int n = sc.nextInt();

      int arr[][] = new int[n][n];
      for(int i=0;i<n;i++){
         for(int j=0;j<n;j++){
            arr[i][j] = sc.nextInt();
         }
      }
      int add1 = 0;
```

```
        int add2 = 0;

        for(int i=0;i<n;i++){
            add1 += arr[i][i];
            add2 += arr[i][n-i-1];
        }
        System.out.println("Sum of the main diagonal: "+ add1);
        System.out.print("Sum of the secondary diagonal: "+ add2);
    }
}
```

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