Rajalakshmi Engineering College

Name: Aldrine Linjoe.s
Email: 240701033@rajalakshmi.edu.in
Roll no: 240701033
Phone: 7092049029
Branch: REC
Department: CSE - Section 10
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

```java
// You are using Java
import java.util.*;
class rec{
public static void main(String[] args){
    Scanner sc=new Scanner(System.in);
    int n=sc.nextInt();
    int[][] a=new int[n][n];
    int s=0,s1=0;
    for(int i=0;i<n;i++){
        for(int j=0;j<n;j++){
            a[i][j]=sc.nextInt();
        }
    }
    for(int i=0;i<n;i++){
        for(int j=0;j<n;j++){
            if(i==j){
                s+=a[i][j];
            }
```

```
        }
    }
    for(int k=0;k<n;k++){
        s1+=a[k][n-k-1];
    }
    System.out.println("Sum of the main diagonal: "+s);
    System.out.print("Sum of the secondary diagonal: "+s1);
    }
}
```

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