

Rajalakshmi Engineering College

Name: KISHORE RAJ.A.S

Email: 241801127@rajalakshmi.edu.in

Roll no: 241801127

Phone: 7397295789

Branch: REC

Department: AI & DS - Section 3

Batch: 2028

Degree: B.E - AI & DS

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.*;
public class Main{
    public static void main(String[]args){
        Scanner s= new Scanner(System.in);
        int a=s.nextInt();
        int m=0;
        int n=0;
        int [][]arr=new int[a][a];
        for (int i=0;i<a;i++){
            for(int j=0;j<a;j++){
                arr[i][j]=s.nextInt();
            }
        }
        for (int i=0;i<a;i++){
            m=m+arr[i][i];
            n=n+arr[i][a- 1-i];
        }
    }
}
```

```
        System.out.println("Sum of the main diagonal :" +m);
        System.out.println("Sum of the secondary diagonal :" +n);
    }
}
```

Status : Correct

Marks : 10/10