

Rajalakshmi Engineering College

Name: DIVAKAR M
Email: 241501050@rajalakshmi.edu.in
Roll no: 241501050
Phone: 7092947417
Branch: REC
Department: AI & ML - Section 4
Batch: 2028
Degree: B.E - AI & ML

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

```
        {  
            k=k+a[i][i];  
        }  
        System.out.println("Sum of the main diagonal: "+k);
```

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

Status : Correct

Marks : 10/10