

# Rajalakshmi Engineering College

Name: MRIDHULA DEVI M  
Email: 240701337@rajalakshmi.edu.in  
Roll no:  
Phone: 9840329629  
Branch: REC  
Department: CSE - Section 8  
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.*;
```

```
class main{
```

```
    public static void main(String[] args){
```

```
        Scanner s=new Scanner(System.in);
```

```
        int num=s.nextInt();
```

```
        int[][] n=new int[num][num];int s1=0;int s2=0;
```

```
        for(int i=0;i<num;i++){
```

```
            for(int j=0;j<num;j++){
```

```
                n[i][j]=s.nextInt();
```

```
                if(i==j){
```

```
                    s1+=n[i][j];
```

```
                }
```

```
            }
```

```
        }
```

```
        for(int i=num-1;i>=0;i--){
```

```
            for(int j=0;j<num;j++){
```

```
        if(i+j==num-1){
            s2+=n[i][j];
        }
    }
}
System.out.println("Sum of the main diagonal: "+s1);
System.out.println("Sum of the secondary diagonal: "+s2);
}
}
```

**Status :** Correct

**Marks :** 10/10