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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 temp{
  public static void main (String args[]){
    Scanner obj= new Scanner(System.in);
    int N= obj.nextInt();
    int[][] arr=new int[N][N];
    for(int i=0;i<N;i++){
      for(int j=0;j<N;j++){
      arr[i][j]=obj.nextInt();
    }}
    int md=0,sd=0;
    for(int i=0;i<N;i++){
      md+=arr[i][i];
      sd+=arr[i][N-i-1];
    }
    System.out.println("Sum of the main diagonal: "+md);
    System.out.println("Sum of the secondary diagonal: "+ sd);
```

```
    }
}
```

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