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# Diagonal Difference

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Problem

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Given a square matrix of size  $N \times N$ , calculate the absolute difference between the sums of its diagonals.

## Input Format

The first line contains a single integer,  $N$ . The next  $N$  lines denote the matrix's rows, with each line containing  $N$  space-separated integers describing the columns.

## Constraints

- $-100 \leq \text{Elements in the matrix} \leq 100$

## Output Format

Print the absolute difference between the two sums of the matrix's diagonals as a single integer.

## Sample Input

```
3
11 2 4
4 5 6
10 8 -12
```

## Sample Output

```
15
```

## Explanation

The primary diagonal is:

```
11
 5
-12
```

Sum across the primary diagonal:  $11 + 5 - 12 = 4$

The secondary diagonal is:

```
 4
 5
10
```

Sum across the secondary diagonal:  $4 + 5 + 10 = 19$

Difference:  $|4 - 19| = 15$

**Note:**  $|x|$  is [absolute value](#) function

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Java 7



```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         Scanner in = new Scanner(System.in);
11         int n = in.nextInt();
12         int a[][] = new int[n][n];
13         for(int a_i=0; a_i < n; a_i++){
14             for(int a_j=0; a_j < n; a_j++){
15                 a[a_i][a_j] = in.nextInt();
16             }
17         }
18     }
19 }
20
```

Line: 1 Col: 1

Upload Code as File

☐ Test against custom input

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