Diagonal Difference ☆

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Given a square matrix, calculate the absolute difference between the sums of its diagonals.

For example, the square matrix arr is shown below:

```
1 2 3
4 5 6
9 8 9
```

The left-to-right diagonal $= 1 + 5 + 9 = 15$. The right to left diagonal $= 3 + 5 + 9 = 17$. Their absolute difference is $|15 - 17| = 2$.

Function description

Complete the $diagonalDifference$ function in the editor below. It must return an integer representing the absolute diagonal difference.

diagonalDifference takes the following parameter:

- arr: an array of integers .

Input Format

The first line contains a single integer, n, the number of rows and columns in the matrix arr.

Each of the next n lines describes a row, $arr[i]$, and consists of n space-separated integers $arr[i][j]$.

Constraints

- $-100 \leq arr[i][j] \leq 100$

Output Format

Print the absolute difference between the sums of the matrix's two 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 the absolute value of x

```csharp
1    using System.CodeDom.Compiler;
2    using System.Collections.Generic;
3    using System.Collections;
4    using System.ComponentModel;
5    using System.Diagnostics.CodeAnalysis;
6    using System.Globalization;
7    using System.IO;
8    using System.Linq;
9    using System.Reflection;
10   using System.Runtime.Serialization;
11   using System.Text.RegularExpressions;
12   using System.Text;
13   using System;
14
15   class Solution {
16
17       // Complete the diagonalDifference function below.
18       static int diagonalDifference(int[][] arr) {
19
20
21       }
22
23       static void Main(string[] args) {
24           TextWriter textWriter = new StreamWriter
     (@System.Environment.GetEnvironmentVariable("OUTPUT_PATH"), true);
25
26           int n = Convert.ToInt32(Console.ReadLine());
27
28           int[][] arr = new int[n][];
29
30           for (int i = 0; i < n; i++) {
31               arr[i] = Array.ConvertAll(Console.ReadLine().Split(' '), arrTemp =>
     Convert.ToInt32(arrTemp));
32           }
33
34           int result = diagonalDifference(arr);
35
36           textWriter.WriteLine(result);
```

C#

Line: 1 Col: 1

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