**Diagonal Difference**

https://hr-avatars.s3.amazonaws.com/8d3fabd9-2280-4e75-8cca-9ea9d80415b1/150x150.png**by [vatsalchanana](https://www.hackerrank.com/vatsalchanana)**

* [**Problem**](https://www.hackerrank.com/challenges/diagonal-difference)
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**Problem Statement**

Given a square matrix of size N×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.

**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

<https://www.hackerrank.com/challenges/diagonal-difference>

static void Main(String[] args)

{

int n = Convert.ToInt32(Console.ReadLine());

int[][] a = new int[n][];

for (int a\_i = 0; a\_i < n; a\_i++)

{

string[] a\_temp = Console.ReadLine().Split(' ');

a[a\_i] = Array.ConvertAll(a\_temp, Int32.Parse);

}

int d1 = 0;

for (int i = 0; i < n; i++)

{

d1 += a[i][i];

}

int d2 = 0;

for (int i = 0, j = a.Length - 1; j >= 0; i++, j--)

{

d2 += a[i][j];

}

Console.WriteLine(Math.Abs(d1 - d2));

Console.ReadLine();

}