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

Python 3

```
 8
 9
10  # Complete the diagonalDifference function below.
11  def diagonalDifference(arr):
12      arr2 = [item for sublist in arr for item in sublist]
13      diag1 = []
14      diag2 = []
15      #n_columns = len(arr[0])
16      diag1_counter = 0
17      diag2_counter = len(arr[0])-1
18      #d1 = len(arr[0]) + 1
19      #d2 = len(arr[0]) - 1
20
21      for i in range(len(arr[0])):
22          diag1.append(arr2[diag1_counter])
23          diag2.append(arr2[diag2_counter])
24          diag1_counter = diag1_counter + (len(arr[0]) + 1)
25          diag2_counter = diag2_counter + (len(arr[0]) - 1)
26
27      #print(abs(sum(diag1) - sum(diag2)))
28      return abs(sum(diag1) - sum(diag2))
29
```

Line: 1 Col: 1

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