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.

diagonalDifference takes the following parameter:

- int arr[n][m]: an array of integers

Return

- int: the absolute diagonal difference

Input Format

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

Return 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
#
# The function is expected to return an INTEGER.
# The function accepts 2D_INTEGER_ARRAY arr as parameter.
#

def diagonalDifference(arr):
    # Write your code here
    (diagonal1, diagonal2) = (0, 0)
    (x_axis, y_axis) = (0, 0)

    while x_axis < len(arr):
        diagonal1 += arr[x_axis][x_axis]
        print(arr[x_axis][x_axis])
        x_axis += 1

    (x_axis, y_axis) = (0, len(arr)-1)

    while x_axis < len(arr) and y_axis >= 0:
        diagonal2 += arr[x_axis][y_axis]
        print(arr[x_axis][y_axis])
        x_axis += 1
        y_axis -= 1

    return abs(diagonal2 - diagonal1)



if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    n = int(input().strip())

    arr = []

    for _ in range(n):
        arr.append(list(map(int, input().rstrip().split())))

    result = diagonalDifference(arr)
```

Line: 34 Col: 38

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Congratulations

You solved this challenge. Would you like to challenge your friends?

Next Challenge

Test case 0
Test case 1
Test case 2
Test case 3
Test case 4
Test case 5
Test case 6

Compiler Message

```
Success
```

Input (stdin) Download

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

Expected Output Download

```
15
```