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.

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

Change Theme Language Python 3

```
13  # The function accepts 2D_INTEGER_ARRAY arr as parameter.
14  #
15
16  def diagonalDifference(arr):
17      length=len(arr)
18      i1=0
19      j1=length-1
20      result=0
21      for i in range(length):
22          for j in range(length):
23              if(i==j):
24                  result=result+arr[i][j]
25              if(i1==i and j1==j):
26                  result=result-arr[i][j]
27                  i1=i1+1
28                  j1=j1-1
29      return abs(result)
30
31  if __name__ == '__main__':
32      fptr = open(os.environ['OUTPUT_PATH'], 'w')
33
34      n = int(input().strip())
35
36      arr = []
```

Line: 29 Col: 22

Upload Code as File Test against custom input Run Code Submit Code

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Problem Solving

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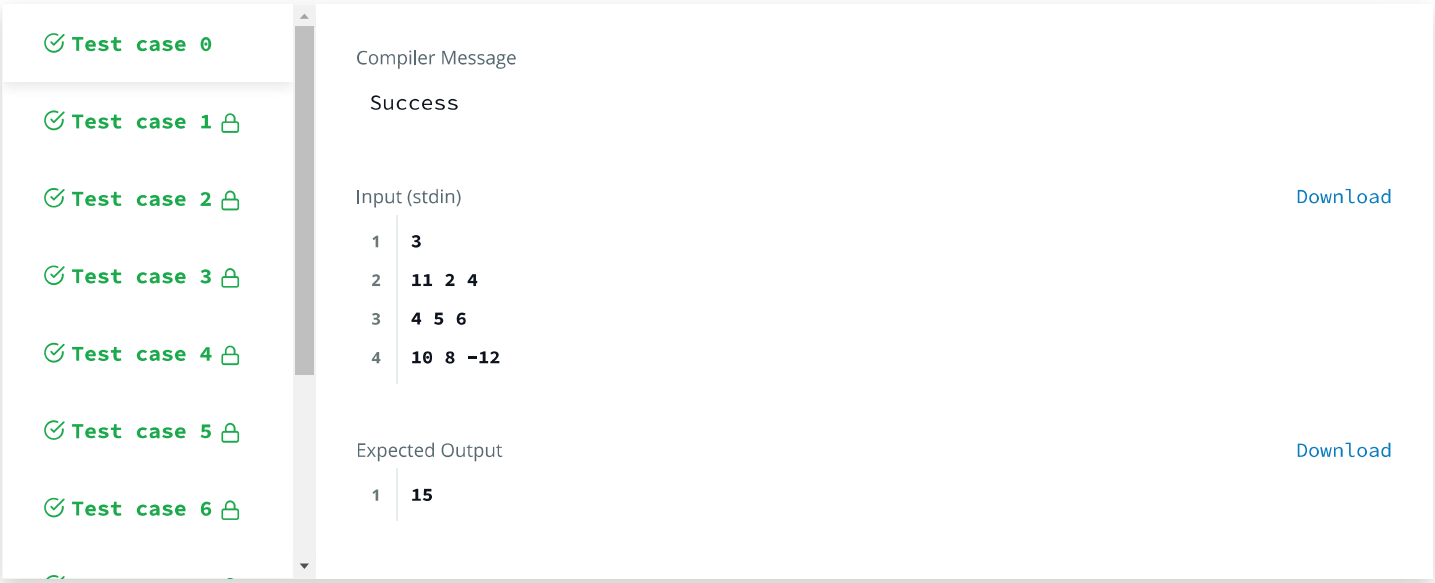
Test case 0
Test case 1
Test case 2
Test case 3
Test case 4
Test case 5
Test case 6
Compiler Message
Success
Input (stdin)
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1 3
2 11 2 4
3 4 5 6
4 10 8 -12
Expected Output
Download
1 15