



# 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  $x$

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Language

Python 3



```
1  #!/bin/python3
2
3  import math
4  import os
5  import random
6  import re
7  import sys
8
9  #
10 # Complete the 'diagonalDifference' function below.
11 #
12 # The function is expected to return an INTEGER.
13 # The function accepts 2D_INTEGER_ARRAY arr as parameter.
14 #
15
16 def diagonalDifference(arr):
17     # Write your code here
18     diagonal1=0
19     diagonal2=0
20     for i in range(len(arr)):
21         for j in range(len(arr)):
22
23             if( i == j):
```

Line: 47 Col: 1

Upload Code as File

☐ Test against custom input

Run Code

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