

# Problem I. Diagonal Difference

OS Linux

Given a square matrix, calculate the absolute difference between the sums of its diagonals.

For example, the square matrix *arr* is shown below:

1		1	2	3
2		4	5	6
3		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.

Input	Output
3 11 2 4 4 5 6 10 8 -12	15

## Explanation

The primary diagonal is:

$$\begin{array}{c|ccc}
 1 & 11 & & \\
 2 & & 5 & \\
 3 & & & -12
 \end{array}$$

Sum across the primary diagonal:  $11 + 5 - 12 = 4$

The secondary diagonal is:

$$\begin{array}{c|ccc}
 1 & & & 4 \\
 2 & & 5 & \\
 3 & 10 & & 
 \end{array}$$

Sum across the secondary diagonal:  $4 + 5 + 10 = 19$

Difference:  $|4 - 19| = 15$

**Note:**  $|x|$  is the [absolute value](#) of  $x$