

Problem D. 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 with the following parameter:

- *int arr[n][m]*: a 2-D array of integers

Return

- *int*: the absolute difference in sums along the diagonals

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

- $-100 \leq arr[i][j] \leq 100$

Input		Output
STDIN	Function	15
-----	-----	
3	arr[][] sizes n = 3, m = 3	
11 2 4	arr = [[11, 2, 4], [4, 5, 6],	
[10, 8, -12]]		
4 5 6		
10 8 -12		

Explanation

The primary diagonal is:

1	11
2	5
3	-12

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

The secondary diagonal is:

1	4
2	5
3	10

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

Difference: $|4 - 19| = 15$

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