



Diagonal Difference ☆

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Problem

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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. It must return an integer representing the absolute diagonal difference.

diagonalDifference takes the following parameter:

- arr*: an array of integers .

Input Format

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

Print 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: $11 + 5 + 12 = 28$



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

C



```
1  #include<stdio.h>
2  int main()
3  {
4      int i,j,n=0,m=0,b=2,a=0;
5      signed int s1=0,s2=0,sum;
6      int arr[10][10];
7      scanf("%d",&n);
8      m=n;
9      for(i=0;i<n;i++)
10     {
11         for(j=0;j<m;j++)
12         {
13             scanf("%d",&arr[i][j]);
14         }
15     }
16     for(i=0;i<m;i++)
17     {
18         for(j=0;j<n;j++)
19         {
20             if(i==j)
21             {
22                 s1=s1+arr[i][j];
23             }
24         }
25     }
```

Line: 28 Col: 25

Upload Code as File ☐ Test against custom input

Run Code

Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

✓ Sample Test case 0

Input (stdin)

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```
1 3
2 11 2 4
3 4 5 6
4 10 8 -12
```

Your Output (stdout)



Test Expected Output

1	15
---	----

Expected Output

[Download](#)

1	15
---	----

