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Diagonal Difference

by [vatsalchanana](#)[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)[Editorial](#)

Given a square matrix of size $N \times N$, calculate the absolute difference between the sums of its diagonals.

Input Format

The first line contains a single integer, N . The next N lines denote the matrix's rows, with each line containing N space-separated integers describing the columns.

Constraints

- $-100 \leq \text{Elements in the matrix} \leq 100$

Output Format

Print the absolute difference between the two sums of the matrix's 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 [absolute value](#) function

Submissions:[382232](#)**Max Score:**10**Difficulty:** Easy**Rate This Challenge:**[More](#)Current Buffer (saved locally, editable)  

C++



```
1 ▼ #include <bits/stdc++.h>
2
3  using namespace std;
4
5 ▼ int diagonalDifference(vector < vector<int> > a) {
6     // Complete this function
7 }
8
9 ▼ int main() {
10     int n;
11     cin >> n;
12     vector< vector<int> > a(n,vector<int>(n));
13 ▼     for(int a_i = 0;a_i < n;a_i++){
14 ▼         for(int a_j = 0;a_j < n;a_j++){
15 ▼             cin >> a[a_i][a_j];
16         }
17     }
18     int result = diagonalDifference(a);
19     cout << result << endl;
20     return 0;
21 }
22
```

Line: 1 Col: 1

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☐ **Test against custom input**

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