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Diagonal Difference 🔖

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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

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

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

Max Score:10
Difficulty: Easy

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```cpp
1  #include <cmath>
2  #include <iostream>
3  using namespace std;
4  int main() {
5      int num=0, Mat[100][100], Sum1=0, Sum2=0;
6      cin>>num;
7      for(int r=0; r<num; ++r)
8          for(int c=0; c<num; ++c)
9                      cin>>Mat[r][c];
10
11     for(int r=0; r<num; ++r)
12     {
13        for(int c=0; c<num; ++c)
14            if(r==c) Sum1=Mat[r][c]+Sum1;
15        Sum2=Sum2+Mat[r][num-r-1];  // secondary diagonal
16     }
17
18     cout<<abs(Sum1-Sum2)<<endl;
19     return 0;
20 }
```

Line: 1 Col: 1

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