
Control C401A

P64789_en

Your task is to write a program that reads a sequence of square matrices of integers, and for each one prints the sum of the numbers which are in their two diagonals.

Use the definition

```
typedef vector<vector<int> > Matrix;
```

your program must implement and use the function

```
int sum_diagonals(const Matrix& mat);
```

that returns the sum of the numbers in the diagonals of the square matrix and non empty mat.

Input

The input consists of a sequence of cases. Each case starts with the size $n \geq 1$ of the matrix, followed by n lines, each one with the n integers of the corresponding row.

Output

For each matrix, print a line with the sum of the numbers which are in its diagonals.

Sample input 1

```
1
7

2
1 2
3 4

3
1 3 0
5 2 7
-8 -4 -9

4
1000000      3      4 -1000000
      1 -1000000 1000000      7
      2 -1000000 1000000      8
1000000      5      6 -1000000
```

Sample output 1

```
7
10
-14
0
```

Sample input 2

```
5
11 22 33 46 15
41 33 94 58 71
56 23 45 98 21
54 15 37 26 17
65 88 99 66 11
```

Sample output 2

```
279
```

Problem information

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