

# J - Symmetric Matrix

**Time Limit: 1 sec**

**Memory Limit: 16MB**

You're given a square matrix  $M$ . Elements of this matrix are  $M_{ij}$ :  $\{0 < i < n, 0 < j < n\}$ . In this problem you'll have to find out whether the given matrix is symmetric or not.

Definition: Symmetric matrix is such a matrix that all elements of it are non-negative and symmetric with relation to the center of this matrix. Any other matrix is considered to be non-symmetric. For example:

$$M = \begin{bmatrix} 5 & 1 & 3 \\ 2 & 0 & 2 \\ 3 & 1 & 5 \end{bmatrix} \text{ is symmetric}$$

$$M = \begin{bmatrix} 5 & 1 & 3 \\ 2 & 0 & 2 \\ 0 & 1 & 5 \end{bmatrix} \text{ is not symmetric, because } 3 \neq 0$$

All you have to do is to find whether the matrix is symmetric or not. Elements of a matrix given in the input are  $-2^{32} \leq M_{ij} \leq 2^{32}$  and  $0 < n \leq 100$ .

## INPUT:

First line of input contains number of test cases  $T \leq 300$ . Then  $T$  test cases follow each described in the following way. The first line of each test case contains  $n$  - the dimension of square matrix. Then  $n$  lines follow each of them containing row  $i$ . Row contains exactly  $n$  elements separated by a space character.  $j$ -th number in row  $i$  is the element  $M_{ij}$  of matrix you have to process.

## OUTPUT:

For each test case output one line "Test #t: s". Where  $t$  is the test number starting from 1. Line  $s$  is equal to "Symmetric" if matrix is symmetric and "Non-symmetric" in any other case.

## SAMPLE INPUT:

```
2
N = 3
5 1 3
2 0 2
3 1 5
N = 3
```

```
5 1 3
2 0 2
0 1 5
```

**SAMPLE OUTPUT:**

```
Test #1: Symmetric.
Test #2: Non-symmetric.
```

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*Huge Easy Contest #1*