**Description:**  
A matrix is symmetric if the element at position (i, j) is equal to the element at position (j, i) for all valid indices. You are given an n×n \times n×n matrix, and your task is to determine if it is symmetric.

Example:

Input:

3

1 2 3

2 5 6

3 6 9

Output: YES

Explanation: The matrix is symmetric since the (i, j) elements equal the (j, i) elements.

**Input Format:**

The first line contains an integer n (1 ≤ n ≤ 100), representing the dimensions of the matrix.

The next n lines contain n integers each, representing the elements of the matrix.

Output Format:

Print YES if the matrix is symmetric, otherwise print NO.

Sample Test Cases:

1. Input

2

1 2

2 1

Output: YES

Input:

3

1 2 3

4 5 6

7 8 9

Output: NO