Problem C
# Tiffany's Trip

Input File: *testdata.in*
Time Limit: 2 seconds

Problem Description

Tiffany is planning to go on a trip. There are n cities which she can visit. However, Tiffany would like to arrange a special trip of only 4 cities that she chooses, say C_1, C_2, C_3, C_4, and visits the four cities by bus in a sequence of C_1, C_2, C_3, C_4, C_1. That is, the path of her trip is a simple cycle of length 4.

Given a map of cities and roads connecting these cities, your task is to write a program to help Tiffany to determine whether there exists a cycle of length four or not.

Input Format

For each test case, the first line contains an integer n indicating the number of cities, $4 \leq n \leq 30$. The subsequent n lines contain n numbers in each line. The number is either 0 or 1. The j-th number in the i-th line denotes whether there is a road connecting C_i and C_j. For example, the graph can be described as follows.
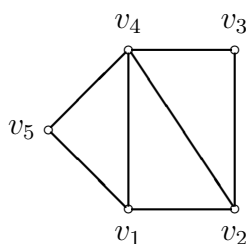
```
5
0 1 0 1 1
1 0 1 1 0
0 1 0 1 0
1 1 1 0 1
1 0 0 1 0
```

The last line of the input file contains 0, indicating the end of input.

Output Format

Output 'yes' if there exists a simple cycle of length four in the map. Otherwise, output 'no'. The output of each test case should be printed in a line.

Sample Input

```
5
0 1 0 1 1
1 0 1 1 0
0 1 0 1 0
1 1 1 0 1
1 0 0 1 0
5
0 1 0 0 1
1 0 1 0 0
0 1 0 1 0
0 0 1 0 1
1 0 0 1 0
0
```

Sample Output

```
yes
no
```