# Triangle LOVE

Time Limit: 1000MS Memory Limit: 65535KB

## Description

Recently, scientists find that there is love between any of two people. For example, between A and B, if A don’t love B, then B must love A, vice versa. And there is no possibility that two people love each other, what a crazy world!

Now, scientists want to know whether or not there is a “Triangle Love” among N people. “Triangle Love” means that among any three people (A,B and C) , A loves B, B loves C and C loves A.

Your problem is writing a program to read the relationship among N people firstly, and return whether or not there is a “Triangle Love”.

## Input

The first line contains a single integer t (1 <= t <= 15), the number of test cases.

For each case, the first line contains one integer N (0 < N <= 2000).

In the next N lines contain the adjacency matrix A of the relationship (without spaces). Ai, j = 1 means i-th people loves j-th people, otherwise Ai, j = 0.

It is guaranteed that the given relationship is a tournament, that is, Ai, i = 0, Ai, j ≠ Aj, i (1 ≤ i, j ≤ n, i ≠ j).

## Output

For each case, output the case number as shown and then print “Yes”, if there is a “Triangle Love” among these N people, otherwise print “No”.

Take the sample output for more details.

## Sample Input

2

5

00100

10000

01001

11101

11000

5

01111

00000

01000

01100

01110

## Sample Output

Case #1: Yes

Case #2: No

## Source

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