

A simple undirected graph is an ordered pair  $G = (V, E)$  where  $V$  is a non-empty set of vertices, and  $E$  is a set of unordered pairs  $(u, v)$  where  $u$  and  $v$  are in  $V$  and  $u \neq v$ . If  $S$  is a set, define  $|S|$  as the size of  $S$ . An incidence matrix  $M$  is a  $|V| \times |E|$  matrix where  $M(i, j)$  is 1 if edge  $j$  is incident to vertex  $i$  (edge  $j$  is either  $(i, u)$  or  $(u, i)$ ) and 0 otherwise.

Given an  $n \times m$  matrix, can it be an incidence matrix of a simple undirected graph  $G = (V, E)$  where  $|V| = n$  and  $|E| = m$ ?

## Input

The first line of the input contains an integer  $t$  ( $1 \leq t \leq 41$ ), the number of test cases.

Each test case starts with a line with two integers  $n$  ( $1 \leq n \leq 8$ ) and  $m$  ( $0 \leq m \leq n(n-1)/2$ ). Then  $n$  lines containing  $m$  integers (0's or 1's) each follow such that the  $j$ -th number on the  $i$ -th line is  $M(i, j)$ .

## Output

For each test case print 'Yes' if the incidence matrix given in the input can be an incidence matrix of some simple undirected graph, otherwise print 'No'.

## Sample Input

```
3
3 3
1 1 0
0 1 1
1 0 1
3 1
1
1
0
3 3
1 1 0
1 1 1
1 0 0
```

## Sample Output

```
Yes
Yes
No
```