

Trace The Rats

Problem Description

Given a square maze (**A**) of dimension **N**, every entry (**A_{ij}**) in the maze is either an open cell '**O**' or a wall '**X**'. A rat can travel to its adjacent locations (left, right, top and bottom), but to reach a cell, it must be open. Given the locations of **R** rats, can you find out whether all the rats can reach others or not?

Input Format:

Input will consist of three parts, viz.

1. Size of the maze (N)
2. The maze itself ($A = N * N$)
3. Number of rats (R)
4. Location of R rats (X_i, Y_i)

Note:

- (X_i, Y_i) will represents the location of the i-th rat.
- Locations are 1-index based.

Output Format:

Print "Yes" if the rats can reach each other, else print "No"

Constraints:

$$1 \leq N \leq 350$$

$$A[i][j] = \{'O', 'X'\}$$

$$1 \leq R \leq N * N$$

$$1 \leq X_i \leq N$$

$$1 \leq Y_i \leq N$$

Sample Input and Output

Sr No.	Input	Output
1	3 O O X O X O O O X 4 1 1 1 2 2 1 3 2	Yes
2	3 O O X O X O O O X 4 1 1 1 2 2 1 2 3	No