Problem A
COMPARE Game

Input file: *testdata.in*
Time limit: 2 second

Problem Description

The president of the Play-Trick Country likes playing games, and recently he is addicted to play a game called COMPARE. This is a 2-player game played on an N-by-M grid table, and each cell of it has a value either a positive integer or -1. Both players will select some cells to form their own cell collections, then they compare their collections to determine who is the winner. Whenever a player select cells from the board, he must obey the following rules:

- He cannot pick cells containing -1.
- He can pick at most one cell from each row.
- He can pick at most one cell from each column.

After their collections are made, the players write down the selected cells on their own paper. Then, they show their own collections to each other simultaneously. The players' scores are determined by the following rules:

- For each row (column), a player gains a point if he picked a cell on the row (column) and his opponent did not.
- For each row (column) such that both players picked a cell from it, a player gains a point if the value in his cell is greater than the value in his opponent's cell.

The winner goes to the player having more points. However, it is a draw game if two players have the same points.

The president loves this game, and he always loves to win. In a game with his friend, he peeks at his friend's paper. So he knows what are the cells of his friend's collection. The president wants to know if it's possible to win this game. Can you write a program to help him?

Technical Specification

1. $T \leq 10$
2. $1 \leq N, M \leq 100$
3. $1 \leq K \leq \min(N, M)$
4. The values of the cells are no more than 10000.
5. You may assume his friend's collection is always valid.

Input Format

The first line of the input contains an integer T indicating the number of test cases. For each test case, the first line contains two integers N and M indicating the size of the game board. The following N lines represent the rows of the board. Then, there is a line containing an integer K which represents how many cells in his friend's collection. The rest K lines of the test case indicate the K cells of the collection. Each of these lines contains two integers represent the row index and column index of a cell, respectively.

Output Format

For each test case, output 'Y' if the president has a chance to win this game otherwise output 'N' in a single line.

Sample Input

```
2
2 2
1 2
3 4
2
```

```
1 1
2 2
3 2
3 -1
5 3
-1 1
2
1 1
2 2
```

Sample Output

```
N
Y
```