

(Adv.) Competitive Programming

Submit until 28.06.2019 13:30, via the [judge interface](#)



Problem: ant-trails (1 second timelimit)

On a beautiful sunny Sunday a lot of ant nations march through a local forest to find and transport some food. All of the nations have their anthills somewhere outside of the forest (the exact position doesn't matter). Starting there they walk through the forest until they stop when they find something to eat.

You can assume, that the forest is some kind of grid. There are horizontal paths p and vertical tracks t . This means, the map of the forest has a size of $p \times t$. To make it a bit easier, you can assume that all nations just follow one route through the forest and food is always at some crossing of a path and a track.

On that Sunday an accident happened. Two nations were using the same crossing at the same time in two different directions and some ants get hurt during walking over the crossing. To prevent these situations in the future, the nations want to work together. They determine, which nations walk on a specific day and they introduced the rule, that no crossing should be used by two nations at the same day. Now they are trying to plan the routes for the nations of a future day, but sometimes they don't find a plan which is valid.

Given a map of $p \times t$ and the positions of the crossings where the routes of the nations end, try to find out, if it is possible to plan routes so that no crossing is used more than once.

Input The first input line contains the number of test cases n ($n < 20$).

The first line of every test case contains the number of paths (p , $1 \leq p \leq 50$) and the number of tracks (t , $1 \leq t \leq 50$), followed by the number of crossings (b , $1 \leq b \leq 500$) where the trails end.

Each of the following b lines contains the location of a crossing in the form of two numbers x (the number of the path, $1 \leq x \leq p$) and y (the number of the track, $1 \leq y \leq t$).

Output Please print for each test case if it is possible or not possible to plan non-crossing ant trails routes.

Sample input

Sample output

2
6 6 10
4 1
3 2
4 2
5 2
3 4
4 4
5 4
3 6
4 6
5 6
5 5 5
3 2
2 3
3 3
4 3
3 4

possible
not possible