	Problem G Confusion	ACM-ICPC Thailand Mini Programming Contest Local Training 2016

You are taking a holiday in the land of Confusion and you want to know how to drive to the airport. The road system in Confusion is one way and has a number of T-junctions where you can turn either left or right. Unfortunately the people of Confusion are not capable of giving directions in a very helpful way, so each person you ask just tells you one thing: that you should turn either left or right at one particular junction, or you should turn left or right at another (possibly even the same one).

For example a person might tell you something like "either you should turn left at junction 21, or you should turn right at junction 5", or "either you should turn left at junction 11, or you should turn left at junction 37". A person might even tell you something like "either you should turn right at junction 4, or you should turn left at junction 4", which is obviously not very helpful.

It's clearly not easy to plan a route using these instructions, but at least you would like to know if the advice you have been given is consistent with itself. That is, is it at least possible that all the advice you have been given is correct.

Input
The first line of input is a number $0 < n \le 20$ telling you many test cases there will be. Every following line contains one test case.

Each test case starts with two numbers $0 < x \le 500$, and $0 < y \le 500$. x tells you how many people you ask, and y tells you how many intersections there are. Following this are x pairs of integers. Each pair encodes a piece of advice given to you. A positive integer represents a right turn at the junction labelled by the absolute value of the integer, and a negative integer represents a left turn at the junction labelled by the absolute value of the integer. E.g. the pair 5 -23 represents the advice "either you should turn right at junction 5 or you should turn left at junction 23". There is no junction 0.

Output
Output for each test case occurs on a new line. Output "yes" if it is possible for all the advice you have been given to be correct, and "no" if it is not possible, that is, if the advice is inconsistent.

I/O example

Input	Output
2	yes
3 3 1 -2 2 3 -1 2	no
5 4 1 2 4 -2 -1 -1 -3 1 -4 -2	