Google BITWISE 2011 facebook

Thrown Out of the Party! (Points: 200)

Mr. Bean has gone to a party where they are playing a game. A person is said to be *Khallaas* if all his Facebook friends present at the party are friends with each other on Facebook. A *Khallaas* person is eliminated from the game and thrown out of the party at every step. Ties are broken arbitrarily. They continue playing the game among the remaining people, finding another *Khallaas* person and eliminating him. The game terminates if at a step, there is no *Khallaas* person who can be eliminated. Otherwise, the game is a success and the host calls back everyone (including those who were thrown out) and gives them a gift. For the special cases, a person with no Facebook friends present in the party as well as a person with only one Facebook friend present are categorized as *Khallaas*. Assume that no one joins the party once the game has started.

Mr. Bean tries to analyse the friendship network to determine whether the game can be a success in some sequence of elimination of *Khallaas* people. Your objective is to help him decide whether this is possible or not.

Input Format:

The first line contains the number of test cases T. For each test case, the first line of input will have two integers N and M, where N represents the number of people in the party and M represents the number of links in the friendship network in between the N people in the beginning. Each person is represented by a distinct integer between 0 and $N-1$. This is followed by M lines of input where each line has two integers, X and Y such that X and Y are people in the party who are friends with each other on Facebook. Note that all pairs of people in the party who are Facebook friends are reported.

Limits: $1 \leq T \leq 300$, $1 \leq N \leq 10000$

Output Format:

For each test case, output 1 if a sequence of elimination of *Khallas* people can result in a winning game otherwise output 0.

Sample Input:

```
2
4 5
0 1
0 3
1 2
1 3
2 3
5 5
```

```
0 1
1 2
2 3
2 4
3 0
```

Sample Output:

```
1
0
```

Hint: In the first case, 1 possible sequence of elimination is: $0, 1, 2, 3$. At the first step, both 0 and 2 are *Khallas* whereas 1 and 3 are not. So, a possible sequence can only start with a 0 or a 2.

Instructions

- Your program should not print anything other than what is specified in the output format. A program with extraneous output (even a single space) will be treated as incorrect!
- While submitting your code, please select the language carefully *gcc/g++*. Using the wrong language will lead to compiler error.
- The only input/output functions allowed are `printf, scanf, cin, cout`. Perform all read/write operations through stdin/stdout. The solutions will be checked using command line redirection only.

Problem Setter: *Dheeraj Kr. Singh, Gautam Kumar & Rasha Eqbal*