Reachability

Description

There are many inhabited planets in the universe where you live in. Planets, to exchange information, have communication stations that connect them to inter-solar communications network. Each planet can be connected to multiple stations, but there is always maximum of one connection between two stations.

Your task is to find out, if all the stations can be reached from all other stations.

Input

First line of input contains an integer **T** (**1 <= T <= 100**), number of test cases. **T** test cases follow.

Each test case starts with a single line, containing two integers **S** (**1 <= S <= 100**) and **C** (**1 <= C <= 1000**), separated by a single space. **S** contains the number of stations in the system and **C** number of connections.

Then **C** lines follows, with description of **C** connections, where each of these lines contain integers **Sf** and **St** (**0 <= Sf, St < S**), indices of stations being connected by a direct connection.

Output

For each test case, please output the text **`reachable`** if all stations are reachable from all other stations, or text **`not reachable`** otherwise. Please output this text one per a single line, per test case.

Sample input

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

Sample output

```
reachable
not reachable
```