# Under Attack

Commander Hralok's army has been at peace after defeating the blood trolls at the battle of Ibedrir. However, a messenger just arrived with word that a large enemy force is marching to attack the allied fortress of Kradash. Kradash will need all the help they can get from Commander Hralok to hold the fortress. Commander Hralok cannot send his entire army to defend his allies because he needs some troops to watch over his region in order to detect any incoming attacks.

The region has a number of towers strategically placed so any attack can be detected in time to defend the stronghold. The jungle in the region is thick so paths were built to communicate between the towers. The paths were built in such a way that there is exactly one path (or path sequence) between any two towers, so that if one tower were to fall it is easier to alert nearby towers. Commander Hralok has complete faith in his troops and knows that a troop stationed at any tower will alert him if enemy troops are marching through any of the paths directly connected to that tower. Now all Commander Hralok needs is your help determining the minimum number of troops he needs to leave stationed at the towers in order to ensure all paths are being guarded by a troop.

## Input

Input begins with a single number N that represents the number of test cases. For each test case, there will be a line containing two space separated integers, T and P, denoting the number of towers and number of paths respectively. On the following P lines will be two space separated integers in the range from 1 to T inclusive, stating there is a path between those two lookout towers.

## Output

Output will be a single integer per line per test case representing the minimum number of troops Commander Hralok needs to leave in order to fully guard his region.

## Sample Input

```
2
3 2
1 2
2 3
6 5
1 2
3 2
2 4
5 4
6 4
```

## Sample Output

```
1
2
```