Problem B
Intelligent Traffic
Time Limit: 1 second

It is necessary to monitor the density of vehicles in all streets as well as crossroads for smart traffic management. From the estimated density of vehicles, the Smart Traffic System can detect and even predict potential traffic jams and modify traffic flows.

The traffic system of the city consists of two-way streets. Each street connects two crossroads. As all the streets in the city are equipped with sensors for traffic monitoring, the layout of traffic system is optimized carefully. Thus, for each pair of crossroads, there is at most one street to connect them. It means that the traffic system with all streets and crossroads can be considered as a tree. To prepare for future city expansion, there can be a crossroad that connects to only a single street. Future streets can be built from such crossroads.

Instead of using cameras (regular or infrared devices) that can be affected by light condition or visual occlusion, all streets are equipped with sensors embedded on the ground. Sensors can monitor the pressure and motion by vehicles on the surface to estimate the traffic flow.

Sensor stations are used to collect data from sensors in nearby regions and send to Smart Traffic System. A sensor station can be deployed in the center of a crossroad or in the middle of a street.

- If a sensor station is placed in a crossroad, it can collect data from sensors in that crossroad, in all streets connecting with that crossroad and in the crossroads at the other ends of these streets.
- If a sensor station is in the middle of a street, the sensor station can collect data from sensors in that street, in the crossroads at the two ends of that street, and all streets connecting with these two crossroads.

Please determine the minimum number of sensor stations to collect data from all sensors in the traffic system of the city.

Input

Each input contains multiple test cases. The first line of input is an integer T -- number of test cases ($1 \le T \le 50$).

For each test case, the first line contains an integer N ($1 \le N \le 100$) denoting the number of streets in the city. Each of the following N lines of a test case contains two integers U and V ($0 \le U, V \le 10^9$) that are the unique IDs of the crossroads at the two ends of a street.

Output

For each test-case, display on a line the minimum number of sensor stations to be deployed in the city.

Sample Input	Sample Output
2 2 0 2 2 4 3 0 1 1 2 2 3	1 2