Battle of States

Unfortunately, after the deathly invasion of the Night King's army, all the cities of Westeros are now occupied by white walkers!

Jon Snow has formed a small council and they have prepared a map of cities and the roads between them. These roads are cursed to work only in one direction, so if anyone moves in opposite direction, they will turn into zombies! They have divided the cities into some number of states in the following way: For two cities like X and Y, we say they belong to a same state if and only if there is a safe way to go from X to Y (without turning into zombies) and also there is a safe way to go from Y to X.

Jon Snow and his allies want to fight and kill those creatures! They know for each state, they need 1 dragonglass dagger in order to be able to clear up that state completely from white walkers! They will start their journey from a random city and follow the roads in that state in order to kill all white walkers there. They then must move to a city in a nearby state, or if it's not possible they will end their journey.

If Jon Snow's army runs out of dragonglass daggers before ending their journey, then they will be killed by white walkers. What's the minimum number of daggers they should take with themselves in order to be sure that they won't be killed in this journey!

Input Format

The first line of input will contain an integer which indicates the number of cities. each of the following lines will contain two integers which represents a safe 1-direction road between two cities.
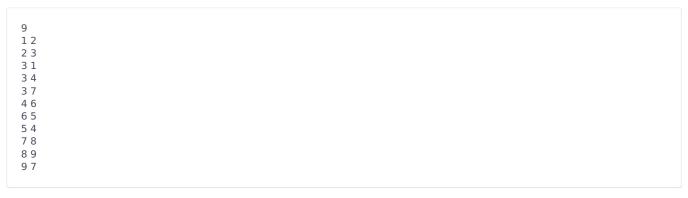
Constraints

number of cities are less than 100.

Output Format

an integer which indicates the minimum number of daggers that jon snow should take in order to be sure he will not run out of daggers during his journey.

Sample Input 0

```
9
1 2
2 3
3 1
3 4
3 7
4 6
6 5
5 4
7 8
8 9
9 7
```

Sample Output 0

```
2
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Explanation 0

If you draw the map of cities, you see they form 3 states, if Jon Snow starts from the state which contains cities {1,2,3}, then he needs two daggers to finish his journey.