



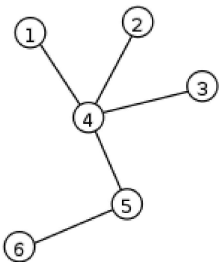
1006. The Longest Path

Total: 204 Accepted: 50

Description

Time Limit: 1sec Memory Limit: 256MB

Suppose we have an undirected, unweighted, connected and acyclic graph (or a tree). We can compute the longest path in a tree. For example, the length of the longest path in the following tree is 3.



You are asked to compute the length of the longest path in a tree.

Input

The first line is the number n of test cases, then n test cases are followed.

Each test case starts with a number m of edges in a separate line, then m edges are followed. Each edge is given by a pair of vertices that are numbered between 0-100 separated by a space.

Output

There are n lines and each line prints out the longest path for a test case.

Sample Input

[Copy](#)

```
2
1
1 2
2
1 2
1 3
```

Sample Output

[Copy](#)

```
1
2
```

Hint

If you simply compute the longest path length from some vertex, that is not necessarily the right answer.

Submit