Longest Path in a Tree

Given an undirected and unweighted tree, find the length (in terms of number of nodes visited) of the longest path in it.

Input Format:

First line contains an integer T(<=10), equal to the number of testcases to solve.

For every testcase, first line contains an integer N(<=10^6) equal to the number of the nodes in the tree.
Next N-1 lines contain two integers u and v, implying that there is an undirected edge between u and v.

Nodes are numbered from 1 to N.

Output Format:

For every testcase, output a single integer equal to the length of the longest path in the given tree.

Example:

Input:

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

5 6
6 7
7 9
3
1 2
2 3

Output:
7
3