

Problem A

Patrol

Input file: *testdata.in*

Time limit: 1 second

Problem Description

On a small island, there are several towns connected with roads. Each road is connecting two different towns. Roads are deployed in such a way that, for any two different towns, there is exactly one path (composed of one or more roads) from one to the other. For towns' safety, police officers patrol all the roads. The rules of patrolling are as below:

- Each police officer takes a town as his/her base. The police officer can only patrol the roads connecting with his/her base.
- Each police officer can patrol up to K roads.
- A town can serve as base for multiple police officers.
- All roads should be patrolled.

Given the deployment of roads, please find the least number of police officers needed so that all roads are patrolled and all rules described above are followed.

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Technical Specification)

- The number of towns is N , where $1 \leq N \leq 100000$.
- Each police officer can patrol at most K roads, where $1 \leq K \leq 1000$.
- Towns are numbered from 0 to $N - 1$.

Input Format

The input begins with a positive integer, indicating the number of test cases followed.

In each test case, the first line contains two positive integers, N , K , indicates the number of towns and the number of roads a police officer can patrol. Following are $N - 1$ lines, each line contains two integers, u and v , where $0 \leq u, v \leq N - 1$ and $u \neq v$ indicates there is a road connecting town u and v .

Output Format

For each test case, output should be a single line containing a non-negative integer, which is the least number of police officers needed.

Sample Input

```
1
3 2
0 1
0 2
```

Sample Output

```
1
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