Number of connected components P81115_en

You are given a tree, that is, an undirected, connected graph with no cycles. Can you count how many (non-empty) connected subgraphs it contains?

Input

Input consists of several trees, each one with the number of vertices n, followed by its $n - 1$ edges. You can assume $1 \leq n \leq 10^5$, that vertices are numbered between 0 and $n - 1$, and that the given edges indeed form a tree.

Output

For every given tree, print its number of connected subgraphs. As this number may be large, make the computations modulo $10^8 + 7$.

Sample input 1

```
1
2  1 0
3  2 0  1 2
4  0 3  0 2  0 1
4  3 2  2 1  1 0
7  1 6  0 4  4 2  4 3  4 6  3 5
```

Sample output 1

```
1
3
6
11
10
44
```

Problem information

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