

et the wind tell you

Input file: standard input
Output file: standard output
Time limit: 2 seconds
Memory limit: 512 megabytes

*When rain starts pouring suddenly in your blue skies
Know that it's me blowing up dark and gloomy clouds
When a light breeze rustle through your hair
Know that it's me thinking of you from afar*

Venti, Aka. Barbatos, is a bard that seems to have arrived on some unknown wind — sometimes sings songs as old as the hills, and other times sings poems fresh and new.

Today, Venti is commissioned to beat hilichurls. Hilichurl camp can be represented by an unrooted tree with one hilichurl in each node (Recall that a tree is an acyclic connected graph). As the Anemo Archon, Venti can use his talent to gather the nearby hilichurls easily. Specifically, Venti can choose a node u , then, all hilichurls in nodes directly connected by u will be gathered to node u .

Now, in order to beat hilichurls more conveniently, Venti wants to gather all of them to only one node. Using talent can be tiring, therefore, Venti wants to minimize the number of using talent to gather all hilichurls to only one node. For a given hilichurl camp, Venti want to calculate the number of ways to gather all hilichurls to only one node when the number of using talent is minimized. As the result can be very large, you should output the answer modulo 998244353.

Two ways are considered different if for one or more indexes i , the i -th operation in the first way and the i -th operation in the second way act on different nodes.

Input

The first line contains a single integer n ($2 \leq n \leq 10^5$) — the size of hilichurl camp.

The i -th line of following $n - 1$ line contains two integers u_i, v_i ($1 \leq u_i, v_i \leq n, u_i \neq v_i$), which means there is a road between node u_i and node v_i in hilichurl camp.

It is guaranteed the given input forms a tree.

Output

Output a single integer — the number of ways to gather all hilichurls to only one node when the number of using talent is minimized.

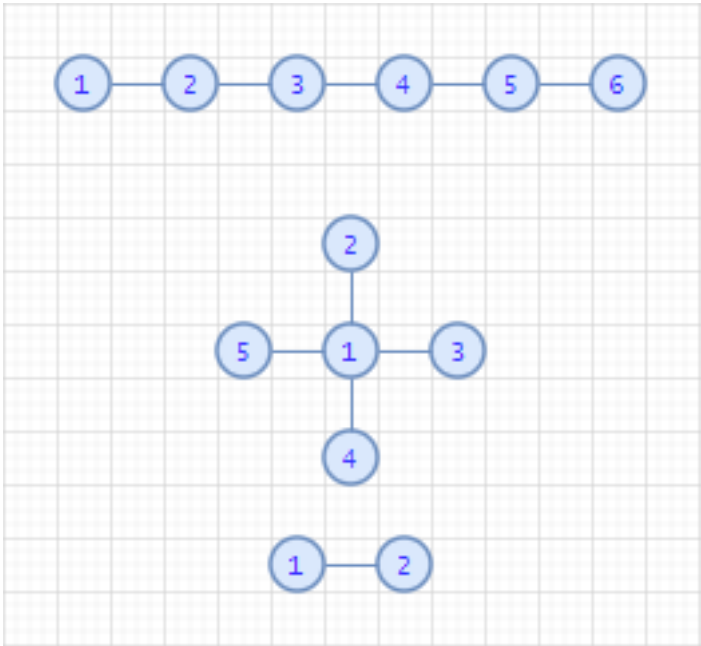
Examples

standard input	standard output
6 1 2 2 3 3 4 4 5 5 6	8
5 1 2 1 3 1 4 1 5	1

standard input	standard output
2 1 2	2
8 1 2 1 3 2 4 2 5 4 6 5 7 3 8	28

Note

The hilichurl camp in the first three examples are as follows:



In the first example, Venti needs to use talent for 4 times, his operation sequence can be any one of the following 8 sequences: [5, 4, 3, 2], [2, 5, 4, 3], [5, 2, 4, 3], [5, 4, 2, 3], [5, 3, 2, 4], [3, 5, 2, 4], [3, 2, 5, 4], [2, 3, 4, 5].

In the second example, Venti needs to use talent for 1 time, he should choose node 1 to use talent, otherwise, he needs to use talent more than 1 time to gather all hilichurls.

In the third example, Venti needs to use talent for 1 time, he can choose any one of two nodes to use his talent.

Recall that **two ways are considered different if for one or more indexes i , the i -th operation in the first way and the i -th operation in the second way act on different nodes.**

*If you find yourself clinging onto the past, reluctant to move on
I shall quietly remember these poems in my heart
If you grow tired of gravity and wish to fly
Then I shall let the winds of the world all blow towards you*