

C. Valera and Elections

time limit per test: 1 second
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

The city Valera lives in is going to hold elections to the city Parliament.

The city has n districts and $n - 1$ bidirectional roads. We know that from any district there is a path along the roads to any other district. Let's enumerate all districts in some way by integers from 1 to n , inclusive. Furthermore, for each road the residents decided if it is the problem road or not. A *problem road* is a road that needs to be repaired.

There are n candidates running the elections. Let's enumerate all candidates in some way by integers from 1 to n , inclusive. If the candidate number i will be elected in the city Parliament, he will perform exactly one promise — to repair all problem roads on the way from the i -th district to the district 1, where the city Parliament is located.

Help Valera and determine the subset of candidates such that if all candidates from the subset will be elected to the city Parliament, all problem roads in the city will be repaired. If there are several such subsets, you should choose the subset consisting of the minimum number of candidates.

Input

The first line contains a single integer n ($2 \leq n \leq 10^5$) — the number of districts in the city.

Then $n - 1$ lines follow. Each line contains the description of a city road as three positive integers x_i, y_i, t_i ($1 \leq x_i, y_i \leq n, 1 \leq t_i \leq 2$) — the districts connected by the i -th bidirectional road and the road type. If t_i equals to one, then the i -th road isn't the problem road; if t_i equals to two, then the i -th road is the problem road.

It's guaranteed that the graph structure of the city is a tree.

Output

In the first line print a single non-negative number k — the minimum size of the required subset of candidates. Then on the second line print k space-separated integers a_1, a_2, \dots, a_k — the numbers of the candidates that form the required subset. If there are multiple solutions, you are allowed to print any of them.

Examples

input
5
1 2 2
2 3 2
3 4 2
4 5 2
output
1
5

input
5
1 2 1
2 3 2

Codeforces Round #216 (Div. 2)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Submit?

Language: GNU G++ 5.1.0 ▼

Choose file: No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit



→ Last submissions

Submission	Time	Verdict
18352208	Jun/10/2016 08:01	Wrong answer on test 1

→ Problem tags

[dfs and similar](#) [graphs](#) [trees](#)
 No tag edit access

→ Contest materials

- Announcement 
- Tutorial 

2 4 1
4 5 1
output
1
3

input
5
1 2 2
1 3 2
1 4 2
1 5 2
output
4
5 4 3 2