Mock CCC '18 Contest 2 S4 - A Tree Problem

Time limit: 0.6s **Memory limit:** 1G
Java: 1.0s

You are given an undirected tree of N vertices. Every edge in the tree has a color. A path is *good* if every adjacent pair of edges in the path have different colors. A vertex is *good* if every simple path starting at that vertex and ending somewhere else in the tree is good.

Compute all good nodes.

Constraints

$1 \leq N \leq 50\,000$

$1 \leq a_i, b_i, c_i \leq 50\,000$

$a_i \neq b_i$ for all i

In tests worth 5 marks, $N \leq 10$.

Input Specification

The first line contains a single integer N.

Each of the next $N-1$ lines contains three space-separated integers, a_i, b_i, and c_i, denoting an edge of color c_i connecting vertices a_i and b_i.

Output Specification

On the first line, print k, the number of good vertices.

For each of the next k lines, print the ID of a good vertex. The k lines must be printed in sorted order.

Sample Input 1

```
8
1 3 1
2 3 1
3 4 3
4 5 4
5 6 3
6 7 2
6 8 2
```

Sample Output 1

```
4
3
4
5
6
```

Sample Input 2

```
8
1 2 2
1 3 1
2 4 3
2 7 1
3 5 2
5 6 2
7 8 1
```

Sample Output 2

```
0
```

Sample Input 3

```
9
1 2 2
1 3 1
1 4 5
1 5 5
2 6 3
3 7 3
4 8 1
5 9 2
```

Sample Output 3

```
5
1
2
3
6
7
```

Sample Input 4

```
10
9 2 1
9 3 1
9 4 2
9 5 2
9 1 3
9 6 4
1 8 5
1 10 5
6 7 9
```

Sample Output 4

```
4
1
6
7
9
```