



## Statement Submissions Questions

the tree, the resulting pair of two trees is unicornish. In case this is not possible, you must tell him so, because pointless hope is a dangerous thing.

## Standard input

The first line will contain two integers,  $N$  and  $K$ .

The following  $N - 1$  lines will each contain two numbers  $x$  and  $y$  meaning there's an edge between nodes  $x$  and  $y$  in our tree.

## Standard output

In case there is no way of obtaining the unicornish pair, output `-1`, otherwise, output at most  $10^6$  lines, each line denoting a toggle operation or the final cut.

A toggle operation will be represented by a line starting with the string `flip` followed by a number  $x$ , denoting the node to be toggled, both separated by a space.

The cut operation will be represented by a line starting with the string `cut` followed by two numbers  $x$  and  $y$  denoting the endpoints of the edge to be cut, all separated by spaces. There can be at most one cut operation in the output.

## Constraints and notes

- $2 \leq N \leq 10^5$
- $1 \leq K < N$
- Big thanks to the actual Bogdan Ciobanu for being a true superman in the making of this contest

Input	Output	Explanation
<pre>3 1 1 2 2 3</pre>	<pre>flip 1 cut 2 1</pre>	For every valid coloring of the tree (with only one blue node), changing the color of the first and then cutting the $(1, 2)$ edge will leave us with two trees with the same number of blue nodes
<pre>5 2 1 2 1 3 1 4 1 5</pre>	<pre>-1</pre>	There is no way to apply the operations such that for any initial valid coloring (with only two blue nodes), in the end we'll end up with two trees with the same number of blue nodes.