8/14/22, 6:03 PM Problem - J - Codeforces





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PROBLEMS SUBMIT CODE MY SUBMISSIONS STANDINGS CUSTOM INVOCATION

# J. pancakes

time limit per test: 4 seconds memory limit per test: 1024 megabytes input: standard input output: standard output

Leroy the lion knows that money doesn't grow on trees, but he thinks that food can. In his quest to grow an everlasting supply of pancakes, he wants to learn all about trees, especially in computer science (for whatever reason).

He is given a problem that he is stuck on, and wants you to solve it.

You are given a tree with n nodes ( $1 \le n \le 4 * 10^5$ ) and n-1 edges connecting these nodes.

Some of these nodes have a value of 1, and the rest have a value of 0.

Some of these nodes also have switches, which can be turned on at a certain integer cost c. This cost varies per node, and nodes that do not have switches cannot be turned on.

When a switch at node m is turned on, the entire subtree, where m is the root node, will have their value flipped: If a node with value 1 is contained in this subtree, its new value will be 0, and a node with value 0 will have a new value of 1.

Please output the the maximum number of nodes that can have value 1, as well as the minimum cost that this takes. Note: you need to maximize the number of nodes with value 1 first.

### Input

The first line of input will contain n, the number of nodes in the tree.

The second line of input will contain a binary string of length n, with the ith character being a '1' or '0' denoting the value of the ith node.

The third line of input will contain n space separated integers where the ith number, is the cost c for the ith switch at the ith node. If the cost given for the ith node is -1, it is not possible to flip a subtree starting at that node.

Finally, the next n-1 lines of input will contain two space separated integers a and b, denoting a connected edge from the ath node to the bth node.

Note: the tree will be rooted at node 1. This means the top node in the tree will be node 1.

### Output

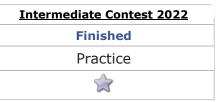
Please output two integers: the the maximum number of nodes that can have value 1, as well as the smallest cost that this takes.

#### **Example**

input	Сору
5	
11010	
2 1 -1 2 6	
3 1	
1 5	
4 2	
2 5	

# traverse-cs Private Participant





## → Languages

The following languages are only available languages for the problems from the contest

# Intermediate Contest 2022:

- Clang++20 Diagnostics
- Clang++17 Diagnostics
- GNU G++14 6.4.0
- GNU G++17 7.3.0
- GNU G++20 11.2.0 (64 bit, winlibs)
- Microsoft Visual C++ 2017
- GNU G++17 9.2.0 (64 bit, msys 2)
- Java 11.0.6
- Java 17 64bit
- Java 1.8.0\_241
- Python 2.7.18
- Python 3.8.10
- PyPy 2.7.13 (7.3.0)
- PyPy 3.6.9 (7.3.0)
- PyPy 3.9.10 (7.3.9, 64bit)

# → Virtual participation

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→ Submit?

Language: GNU G++17 7.3.0 

Choose file: Choose File No file chosen

Submit

Start virtual contest

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