

# I. Omar and Trees

time limit per test: 1 second  
memory limit per test: 256 megabytes

When Omar was at school, his teacher gave him a challenge, and Omar accepted it.

The teacher gave Omar a tree of  $n$  nodes (node 1 is the root). The  $i_{th}$  node has a value  $a_i$ .

Then the teacher asked Omar  $q$  queries of two types:

- Update the value in every node in the subtree rooted with  $u$  to  $val$  ( $u$  included).
- Determine if the sum of all nodes in the subtree with root  $u$  can be represented as the sum of two prime numbers or not ( $u$  included).

Omar asks for your help in this challenge.

## Input

The first line contains one integer  $n$  ( $1 \leq n \leq 10^5$ ).

The second line contains  $n$  integers ( $1 \leq a_i \leq 10^5$ )—the value of each node.

For each  $n - 1$  lines, it contains two integers  $u$  and  $v$  ( $1 \leq u, v \leq n, u \neq v$ )— indices of nodes connected by an edge.

Then the number of queries  $q$  ( $1 \leq q \leq 10^5$ ).

Each query format is one of the following:

- 1  $u$   $val$ : Update the value in every node in the subtree rooted with  $u$  to  $val$  ( $1 \leq val \leq 10^5$ ).
- 2  $u$ : Determine if the sum of all nodes in the subtree with root  $u$  can be represented as the sum of two prime numbers or not.

## Output

For each query of the second type, print "YES" without quotes if the sum of all nodes in the subtree with root  $u$  can be represented as the sum of two prime numbers or not, "NO" without quotes otherwise.

## Example

input	Copy
9 3 5 2 7 10 6 1 4 3 1 2 2 3 1 4 4 5 5 6 4 7 7 8 7 9 6 2 7 2 2 1 7 10 2 7 1 7 9 2 7	
output	Copy
YES YES YES NO	

### TCPC Tunisian Collegiate Programming Contest 2022

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 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

#### Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

#### Submit?

Language: GNU G++20 13.2 (64 bit, win)

Choose file: Choose File No file chosen

Submit

#### Last submissions

Submission	Time	Verdict
<a href="#">317683350</a>	Apr/29/2025 03:30	Accepted
<a href="#">317683172</a>	Apr/29/2025 03:23	Wrong answer on test 2
<a href="#">317528948</a>	Apr/28/2025 06:22	Accepted
<a href="#">317511131</a>	Apr/27/2025 23:28	Accepted
<a href="#">317511105</a>	Apr/27/2025 23:27	Wrong answer on test 5
<a href="#">317510309</a>	Apr/27/2025 23:19	Accepted
<a href="#">317510267</a>	Apr/27/2025 23:18	Runtime error on test 5
<a href="#">317510199</a>	Apr/27/2025 23:17	Accepted
<a href="#">317510128</a>	Apr/27/2025 23:16	Wrong answer on test 48
<a href="#">317510005</a>	Apr/27/2025 23:15	Wrong answer on test 18