1766. Tree of Coprimes

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User Accepted:	300
User Tried:	771
Total Accepted:	309
Total Submissions:	1732
Difficulty:	Hard

There is a tree (i.e., a connected, undirected graph that has no cycles) consisting of `n` nodes numbered from `0` to `n - 1` and exactly `n - 1` edges. Each node has a value associated with it, and the **root** of the tree is node `0`.

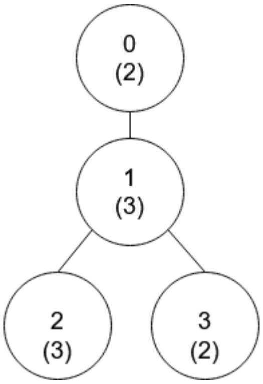
To represent this tree, you are given an integer array `nums` and a 2D array `edges`. Each `nums[i]` represents the i^{th} node's value, and each `edges[j]` = [u_j, v_j] represents an edge between nodes u_j and v_j in the tree.

Two values `x` and `y` are **coprime** if `gcd(x, y) == 1` where `gcd(x, y)` is the **greatest common divisor** of `x` and `y`.

An ancestor of a node `i` is any other node on the shortest path from node `i` to the **root**. A node is **not** considered an ancestor of itself.

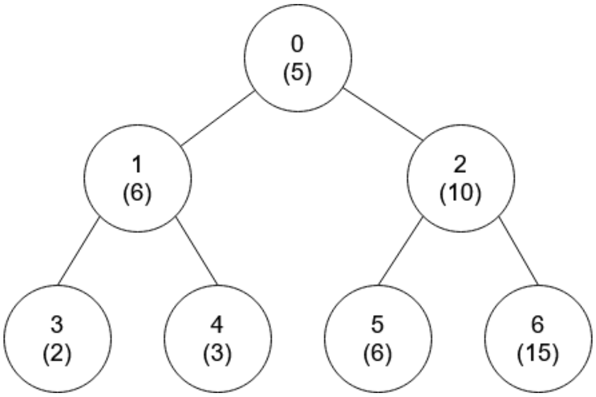
Return *an array* `ans` *of size* `n`, *where* `ans[i]` *is the closest ancestor to node* `i` *such that* `nums[i]` *and* `nums[ans[i]]` are **coprime**, or `-1` *if there is no such ancestor*.

Example 1:



```
Input: nums = [2,3,3,2], edges = [[0,1],[1,2],[1,3]]
Output: [-1,0,0,1]
Explanation: In the above figure, each node's value is in parentheses.
- Node 0 has no coprime ancestors.
- Node 1 has only one ancestor, node 0. Their values are coprime (gcd(2,3) == 1).
- Node 2 has two ancestors, nodes 1 and 0. Node 1's value is not coprime (gcd(3,3) == 3), but node 0's
  value is (gcd(2,3) == 1), so node 0 is the closest valid ancestor.
- Node 3 has two ancestors, nodes 1 and 0. It is coprime with node 1 (gcd(3,2) == 1), so node 1 is its
  closest valid ancestor.
```

Example 2:



```
Input: nums = [5,6,10,2,3,6,15], edges = [[0,1],[0,2],[1,3],[1,4],[2,5],[2,6]]
Output: [-1,0,-1,0,0,0,-1]
```

Constraints:

- `nums.length == n`
- `1 <= nums[i] <= 50`
- `1 <= n <=` 10^5
- `edges.length == n - 1`
- `edges[j].length == 2`
- `0 <=` u_j, v_j `< n`
- u_j `!=` v_j

Discuss (https://leetcode.com/problems/tree-of-coprimes/discuss)

JavaScript

```
/**
 * @param {number[]} nums
 * @param {number[][]} edges
 * @return {number[]}
 */
var getCoprimes = function(nums, edges) {

};
```

□ **Custom Testcase** Use Example Testcases

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