



☆ Primes in Subtree



- Section 1 -

1

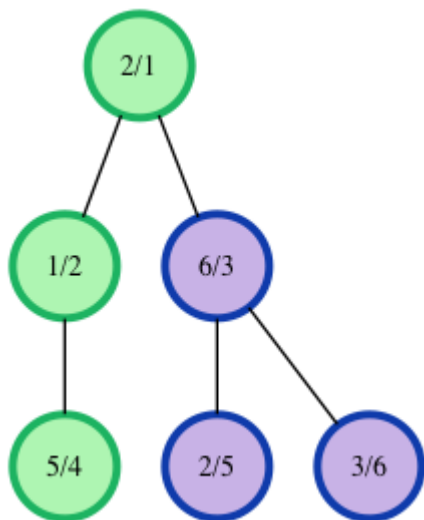
You will be given a description of a tree rooted at node 1, with each node having an associated value. After you construct the tree, there will be a number of queries in the form of a node number. For each query, determine the number of elements in the subtree rooted at the query node that have values that are prime numbers.

2

- Section 2 -

3

As an example, the following tree has been created. The labels are in the form $[data]/[node\ number]$. Assuming the query is 3, we analyze the blue subtree and determine there are 2 prime values in the subtree: 2 and 3 located in nodes 5 and 6. The value in node 3, i.e. 6, is not prime.



Function Description

Complete the function `primeQuery` in the editor below. The function must return an array of integers, each the result of a query, aligned by index.

`primeQuery` has the following parameter(s):

`n`: an integer denoting the number of nodes in the tree to be labeled 1 to n

`u[u[0],...,u[n-1]]`: an array of integers denoting start node of each edge[i]

`v[v[0],...,v[n-1]]`: an array of integers denoting end node of each edge[i]

`values[values[1],...,values[n]]`: an array of integers denoting the data value for each node[i]

queries[queries[0],...queries[n-1]]: an array of integers, the node numbers to query

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq u[i], v[i], values[i] \leq 10^5$
- $u[i] \neq v[i]$
- $1 \leq q \leq 10^5$
- $1 \leq queries[i] \leq 10^5$

Input Format For Custom Testing

Sample Case 0

Sample Input 0

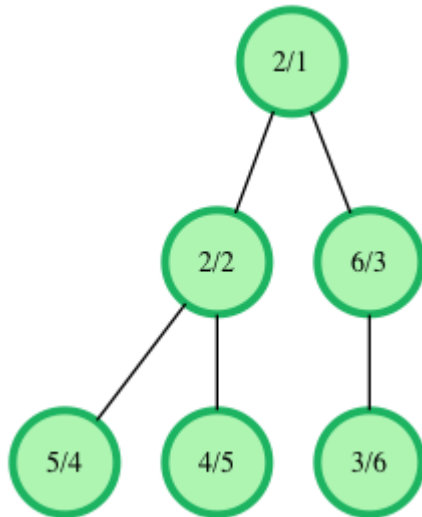
```
6
5
1
2
2
1
3
5
2
4
5
3
6
6
2
2
6
5
4
3
5
1
4
5
6
2
```

Sample Output 0

4
1
0
1
2

Explanation 0

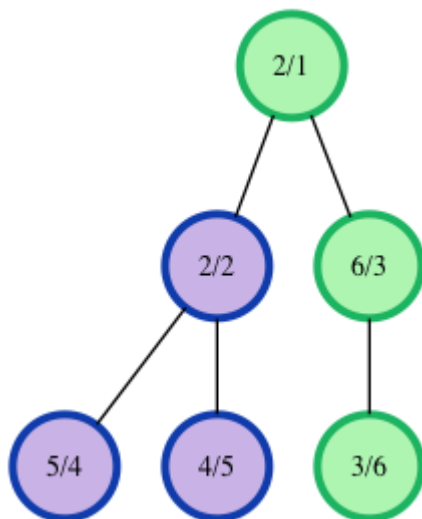
The given tree is:



The answer for queries:

- Query 1: Nodes having a prime value in the subtree rooted at 1: 1, 2, 4, and 6. So the answer is 4.
- Query 2: Nodes having a prime value in the subtree rooted at 4: 4. So the answer is 1.
- Query 3: There are no nodes having a prime value in the subtree rooted at 5. So the answer is 0.
- Query 4: Node having a prime value in the subtree rooted at 6: 6. So the answer is 1.
- Query 5: Nodes having a prime value in the subtree rooted at 2: 2 and 4. So the answer is 2.

The following image highlights the subtree rooted at node 2 in blue.



YOUR ANSWER

Original code Java 8 ⚙

```
1 ▶ import ↕;
12
13 public class Solution {
14
15
16     // Complete the primeQuery function below.
17 ▼     static List<Integer> primeQuery(int n, List<Integer> u,
    List<Integer> v, List<Integer> values, List<Integer> queries) {
18
19
20     }
21
22
23 ▶     public static void main(String[] args) throws IOException {↕
109 }
110
```

Line: 9 Col: 1

☐ Test against custom input

Run Code

Submit code & Continue

(You can submit any number of times)

[Download sample test cases](#)
edit them on windows.*The input/output files have Unix line endings. Do not use Notepad to*