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Dashboard › Data Structures › Advanced › Coloring Tree   Points: 25   Rank: 183204

Coloring Tree 🔖

H by devuy11

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You are given a tree with **N** nodes with every node being colored. A color is represented by an integer ranging from 1 to 10^9. Can you find the number of distinct colors available in a subtree rooted at the node **s**?

Input Format
The first line contains three space separated integers representing the number of nodes in the tree (**N**), number of queries to answer (**M**) and the root of the tree.

In each of the next N-1 lines, there are two space separated integers(a b) representing an edge from node a to Node b and vice-versa.

N lines follow: N+i^{th} line contains the color of the ith node.

M lines follow: Each line containing a single integer s.

Output Format
Output exactly M lines, each line containing the output of the i_{th} query.

Constraints
$0 <= M <= 10^5$
$1 <= N <= 10^5$
$1 <= root <= N$
$1 <= color of the Node <= 10^9$

Example

Sample Input

```
4 2 1
1 2
2 4
2 3
10
20
20
30
1
2
```

Sample Output

```
3
2
```

Explanation

Query 1-Subtree rooted at 1 is the entire tree and colors used are 10 20 20 30 , so the answer is 3(10,20 and 30)

Query 2-Subtree rooted at 2 contains color 20 20 30, so the answer is 2(20 and 30)

Submissions:451

Max Score:120
Difficulty: Hard
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More

Current Buffer (saved locally, editable) ⑂ ↺	Java 7 ⌄	⤢ ⚙

```java
 1 ▾ import java.io.*;
 2   import java.util.*;
 3   import java.text.*;
 4   import java.math.*;
 5   import java.util.regex.*;
 6
 7 ▾ public class Solution {
 8
 9 ▾     public static void main(String[] args) {
10 ▾         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11         }
12   }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

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