

HOME CONTESTS GYM PROBLEMSET GROUPS RATING API CANADA CUP 🛣 SECTIONS

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS STANDINGS CUSTOM INVOCATION

F. New Year Tree

time limit per test: 3 seconds memory limit per test: 256 megabytes input: standard input output: standard output

The New Year holidays are over, but Resha doesn't want to throw away the New Year tree. He invited his best friends Kerim and Gural to help him to redecorate the New Year tree.

The New Year tree is an undirected tree with *n* vertices and root in the vertex 1.

You should process the queries of the two types:

- 1. Change the colours of all vertices in the subtree of the vertex v to the colour c.
- 2. Find the number of different colours in the subtree of the vertex v.

Input

The first line contains two integers n, m ($1 \le n, m \le 4 \cdot 10^5$) — the number of vertices in the tree and the number of the queries.

The second line contains n integers c_i ($1 \le c_i \le 60$) — the colour of the i-th vertex.

Each of the next n - 1 lines contains two integers x_j , y_j ($1 \le x_j$, $y_j \le n$) — the vertices of the j-th edge. It is guaranteed that you are given correct undirected tree.

The last m lines contains the description of the queries. Each description starts with the integer t_k ($1 \le t_k \le 2$) — the type of the k-th query. For the queries of the first type then follows two integers v_k , c_k ($1 \le v_k \le n$, $1 \le c_k \le 60$) — the number of the vertex whose subtree will be recoloured with the colour c_k . For the queries of the second type then follows integer v_k ($1 \le v_k \le n$) — the number of the vertex for which subtree you should find the number of different colours.

Output

For each query of the second type print the integer a — the number of different colours in the subtree of the vertex given in the query.

Each of the numbers should be printed on a separate line in order of query appearing in the input.

Examples

input			
7 10			
111111			
1 2			
1 3			
1 4			
3 5			
3 6			
3 7			
1 3 2			
2 1			
1 4 3			
2 1			
1 2 5			
2 1			
1 6 4			
2 1			

Finished Practice

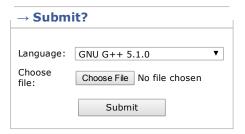
→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-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

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.



→ Last submissions

Submission	Time	Verdict	
22689913	Dec/04/2016 10:02	Time limit exceeded on test 64	
22689889	Dec/04/2016 10:00	Time limit exceeded on test 51	
21426571	Oct/14/2016 18:35	Wrong answer on test 1	
21404738	Oct/13/2016 16:56	Wrong answer on test 1	

→ Problem tags		
bitmasks	data structures	
	No tag edit access	

2 2 2 3 output 2 3 4 5 1 2

→ Contest materials			
•	Announcement	×	
•	Tutorial	×	

input
23
12
1 3
1 4
2 5 2 6
3 7
3 8
4 9 4 10
4 11
6 12
6 13 7 14
7 15
7 16
8 17
8 18 10 19
10 20
10 21
11 22 11 23
2 1
2 5
2 6 2 7
2 8
2 9 2 10
2 11
2 4
1 12 1 1 13 1
1 14 1
1 15 1
1 16 1 1 17 1
1 17 1
1 19 1
1 20 1 1 21 1
1 22 1
1 23 1
2 1 2 5
2 6
2 7
2 8 2 9
2 10
2 11
2 4
output
6
1 3
3 2
2

```
1
2
3
5
5
```

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