

Rooted Trees

Digo is given a rooted tree where nodes are numbered from 1 to N (1 is the root node) and asked some queries on it.

There are two types of queries

1) Given node number U, two integers X, K which means add X to the given node , X+K to its children , X+2*K to children of its children and so on..

2) Given a node number U print the sum of nodes in the subtree rooted at U (including node U).

Since the answer can be too long, print the answer $10^9 + 7$

Initially each node contains zero.

Input Format:

First line contains a single integer N denoting the number of nodes in the tree.

Next N-1 lines denotes the parent node of nodes 2 to N. (1 is the root node it has no parent)

Next line contains M (Number of queries).

In each of the next M lines first integer is T which means the type of the query.

If T is ,1 it is followed by three integers U, X, K as explained in the question.

If T is 2, it is followed by a single integer U.

Output Format:-

For each query of type 2, output a single line containing the required answer.

Constraints:-

$1 \leq N \leq 100000$

$1 \leq M \leq 100000$

$1 \leq X, K \leq 1000000000$

Sample Input:

```
7
1
1
2
2
3
3
5
1 1 1 2
2 1
2 3
1 3 2 1
2 3
```

Sample Output:

27
13
21