

## Problem J. Juke Artem

Input file: *standard input*  
Output file: *standard output*  
Time limit: 2 seconds  
Memory limit: 512 mebibytes

You are given a tree with  $n$  vertices enumerated from 0 to  $n - 1$  inclusive. There is a number in each vertex. Numbers are from 0 to  $n - 1$  and are all distinct (i.e. they form a permutation). The number  $x$  is **in its place** if it is in the  $x$ -th vertex.

You are allowed to swap two numbers at the endpoints of some edge of the tree. This costs you 0 if at least one of those numbers was in its place before the swap and 1 otherwise.

What is the minimum cost you have to pay to put all numbers in their places?

### Input

The first line contains a single integer  $n$  ( $2 \leq n \leq 10^5$ ), the number of vertices of the tree.

The second line contains  $n - 1$  integers  $p_i$  ( $0 \leq p_i < i$ ).  $i$ -th of them describes an edge between vertices  $p_i$  and  $i$ .

The third line contains  $n$  integers  $a_i$  ( $0 \leq a_i < n$ ).  $i$ -th of them (in zero based indexing) is equal to the number which is initially in the  $i$ -th vertex.  $a$  is a permutation.

### Output

Print a single integer — the minimum cost you have to pay.

### Examples

standard input	standard output
2 0 0 1	0
2 0 1 0	1
3 0 0 0 2 1	2