548 Tree

You are to determine the value of the leaf node in a given binary tree that is the terminal node of a path of least value from the root of the binary tree to any leaf. The value of a path is the sum of values of nodes along that path.

Input

The input file will contain a description of the binary tree given as the inorder and postorder traversal sequences of that tree. Your program will read two line (until end of file) from the input file. The first line will contain the sequence of values associated with an inorder traversal of the tree and the second line will contain the sequence of values associated with a postorder traversal of the tree. All values will be greater than zero and less than 500. You may assume that no binary tree will have more than 25 nodes or less than 1 node.

Output

For each tree description you should output the value of the leaf node of a path of least value. In the case of multiple paths of least value you may pick any of the appropiate terminal nodes.

Sample Input

```
3 2 1 4 5 7 6
3 1 2 5 6 7 4
7 8 11 3 5 16 12 18
8 3 11 7 16 18 12 5
255
255
```

Sample Output

```
1
3
255
```