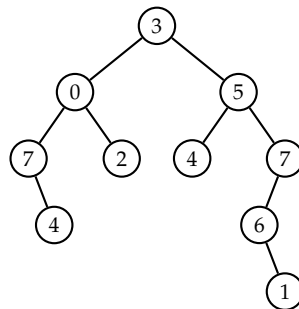

Trees — Recursive traversal**P98436_en**

Write a program that reads the description of a natural binary tree and prints its postorder and inorder traversals.

The description of a tree consists of its traversal in preorder, which includes the leaves marked with a -1.

For instance, the tree



would be described as 3 0 7 -1 4 -1 -1 2 -1 -1 5 4 -1 -1 7 6 -1 1 -1 -1 -1

Input

Input consists of the description of a natural binary tree.

Output

Your program must print two lines, with the postorder and inorder traversals of the tree. Follow the format in the samples.

Sample input

```
3 0 7 -1 4 -1 -1 2 -1 -1 5 4 -1 -1 7 6 -1 1 -1 -1 -1
```

Sample output

```
pos: 4 7 2 0 4 1 6 7 5 3
ino: 7 4 0 2 3 4 5 6 1 7
```

Problem information

Author : Jordi Petit i Salvador Roura

Translator : Jordi Petit

Generation : 2023-07-15 12:40:37

© Jutge.org, 2006–2023.

<https://jutge.org>