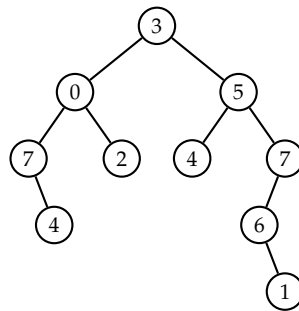## Trees — Recursive traversal   P98436_en

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

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