Insert in a BST   Z89043_en

A **binary search tree** (BST) is a binary tree such that for each node **n** in the tree the elements in the left subtree of the tree rooted at **n** are less than the element at node **n**, and the elements of the right subtree of the tree rooted at **n** are greater than the element at the node **n**.

Write a program that reads a sequence of integer numbers and builds a binary search tree by inserting the numbers in the sequence in an empty tree. The numbers are inserted in the order they appear in the sequence. If a number is already in the tree, insertion has no effect in the tree, otherwise the number is inserted in a spot that guarantees that the resulting tree is a BST.

The program must write the BST resulting from inserting the numbers in the input sequence in pre-order.

Sample input

```
30
10
50
0
100
15
50
120
30
110
```

Sample output

```
Pre-order traversal: 30 10 0 15 50 100 120 110
```

Problem information

Author :
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