Question: [AVL Tree]

Content:

In previous period, we have practiced binary search tree. However, we are not that lucky to get a nearly balanced BST every time. Thus, we provide you a solution, AVL tree, for normal BST to balance all skewed sub-trees. In AVL tree, we use operation "rotate" to perform balancing processing. There are four kinds of rotation way. Please design your AVL tree with these four ways of rotation.

動畫參考

WIKI 參考

There would be **LL, RR, LR, RL** rotation.
LL means the left subtree A and the left subtree of A form a skewed subtree.

Input:

1. The first line is the number of the set(s) (<10).
2. Every set has one line as input.
3. The input consists of non-repeating positive integers at random.
4. The range of a positive integer is less than the upper bound of INT.
5. A negative number "-1" marks the end of input which should **NOT** be processed by your program.

Output:

Output each node in your AVL-tree in In-Order & Post-Order.

1. The first line is in-order.
2. The second line is post-order.

Sample Input:

```
2
1 2 3 4 5 6 7 8 9 10 -1
10 11 15 12 14 13 20 30 40 50 -1
```

Sample Output:

```
1,2,3,4,5,6,7,8,9,10
1,3,2,5,7,6,10,9,8,4
10,11,12,13,14,15,20,30,40,50
10,11,13,15,14,30,50,40,20,12
```