Programmer's Study Group

Week 02

Whiteboard interview steps

- Re-state the problem.
- Try to figure out different solutions from easy to difficult.
- Implement your idea.
- Give out test cases. Try to test your own solution.
- Walk through one of your test case.

Last homework

- https://leetcode.com/problems/first-bad-version/ A Xiong
- https://leetcode.com/problems/search-for-a-range/ Young
- https://leetcode.com/problems/find-peak-element/ Xiao Lei
- https://leetcode.com/problems/search-insert-position/ Naga
- https://leetcode.com/problems/search-in-rotated-sorted-array/ Shu Xin
- https://leetcode.com/problems/search-in-rotated-sorted-array-ii/ Luo Chen

- https://leetcode.com/problems/balanced-binary-tree/ Jingjing
- https://leetcode.com/problems/same-tree/ Da Shi
- https://leetcode.com/problems/binary-tree-paths/ Dong Yan
- https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-search-tree/
- https://leetcode.com/problems/count-complete-tree-nodes/ Paji
- https://leetcode.com/problems/validate-binary-search-tree/ Gary

Count Complete Tree Nodes

```
int getLeftHeight(TreeNode root) {
    int height = 0;
    while (root != null) {
        root = root.left;
        height++;
    }
    return height;
}

public int countNodes(TreeNode root) {
    if (root == null) return 0;

    int left_height = getLeftHeight(root.left);
    int right_height = getLeftHeight(root.right);

    if(left_height == right_height)
            return (1 << left_height) + countNodes(root.right);

    return (1 << right_height) + countNodes(root.left);
}
```

Next Homework preview

- https://leetcode.com/problems/remove-duplicates-from-sorted-list/
- https://leetcode.com/problems/swap-nodes-in-pairs/
- https://leetcode.com/problems/rotate-list/
- https://leetcode.com/problems/partition-list/
- https://leetcode.com/problems/reverse-linked-list-ii/
- https://leetcode.com/problems/odd-even-linked-list/
- https://leetcode.com/problems/intersection-of-two-linked-lists/
- https://leetcode.com/problems/linked-list-cycle/
- https://leetcode.com/problems/linked-list-cycle-ii/

- https://leetcode.com/problems/clone-graph/
- https://leetcode.com/problems/course-schedule/
- https://leetcode.com/problems/course-schedule-ii/