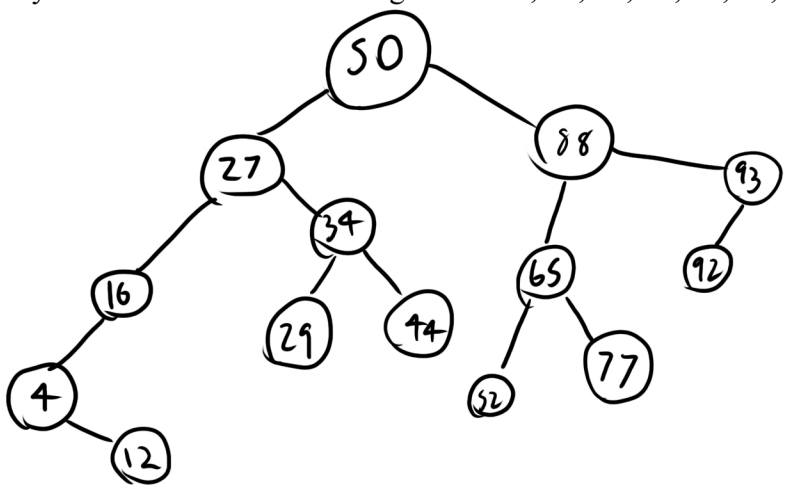
Before starting the exercise, go through the lecture notes, examples, and binary search tree practice problems pdf file.

Computer Science I - Exercise
Binary Search Trees

1. Draw the binary search tree that results from inserting the following values into an initially empty binary search tree in the following order: 50, 27, 16, 88, 34, 65, 52, 77, 93, 4, 12, 29, 44, 92



2. What are the outputs of a pre-order, in-order and post-order traversal of the final binary search tree drawn in question 1?

In-order: 4 , 12 , 16 , 27 , 29 , 34 , 44 , 50 , 52 , 65 , 77 , 88 , 92 , 93

Pre-order: 50 , 27 , 16 , 4 , 12 , 34 , 29 , 44, 88 , 65 , 52 , 77 , 93 , 92

Post-order: 12 , 4 , 16 , 29 , 44, 34 , 27 , 52 , 77 , 65 , 92 , 93 , 88 , 50

3. If a search was conducted for the value 37 in the final binary search tree from question #1, which nodes would get visited? (List them in the order they get visited.)

50, 27, 34, 44

4. Write a function which returns the smallest value stored in a *non-empty* binary search tree. The prototype is below:

```
int minVal(struct treenode* root) {
    if (!root->left)
        return root->data;

    return minVal(root->left);


}
```