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COMP 250: Introduction to Computer Science

Assignment 4

Fall 2013

**Question 2**

a) To minimize the height of the binary search tree, the keys should be inserted with the value n/2 as the root. Continue splitting the set of remaining numbers in half, and insert the number at the centre of that set into the tree.

b) By using the tree previously obtained, the worse case running is:

find:

insert:

remove:

c) To obtain a tree with maximal height, begin with 1 as the root and insert the nodes in increasing order where the larger value is placed to the right of the current node. The resulting tree will have height n-1.

d) Using the tree obtained in (c) the worst case running time is O(n).

find:

insert:

remove:

**Question 3**