Due Date
Wednesday, November 6, 2013

Program objectives
The objectives of this assignment are as follows.
An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution (ABET b).

Value
This program is worth 12 points. The distribution of points will be as follows.

Criterion	Value
Problem 1	4
Problem 2	4
Problem 3	4

Delivery Method
Turn in a hardcopy at the beginning of class.

Problems
1. What is the min and max number of elements possible in a binary tree of height 31?

2. Build a binary search tree from the data below. Pick the elements from right to left in the array.
   (a) In the search tree, how many comparisons would be needed to search for an element with key 24?
   (b) List the elements in a post-order walkthrough for the search tree.

   Data for problem 2
   $A = \{30, 33, 30, 23, 32, 27, 28, 31\}$

3. Draw a search tree that has 3/4 as many nodes in its right subtree as in its left subtree, and that has 4 leaf nodes and 4 internal nodes. Fill in values in each node to show that your solution is a search tree.