Recitation 9

Practice Problems

R-11.3 How many different binary search trees can store the keys $\{1,2,3\}$?

How would you add entries to a tree in order to create each of the trees in 11.3.

R-11.1 If we insert the entries $(1,A)$, $(2,B)$, $(3,C)$, $(4,D)$, and $(5,E)$, in this order, into an initially empty binary search tree, what will it look like?

R-11.2 Insert, into an empty binary search tree, entries with keys 30, 40, 24, 58, 48, 26, 11, 13 (in this order). Draw the tree after each insertion.

R-11.4 Dr. Amongus claims that the order in which a fixed set of entries is inserted into a binary search tree does not matter—the same tree results every time. Give a small example that proves he is wrong.

C-11.33 For a key k that is not found in binary search tree T, prove that both the greatest key less than k and the least key greater than k lie on the path traced by the search for k.