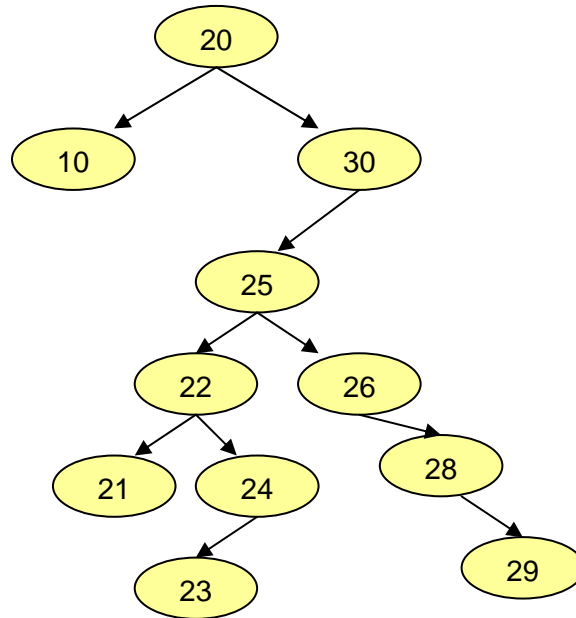
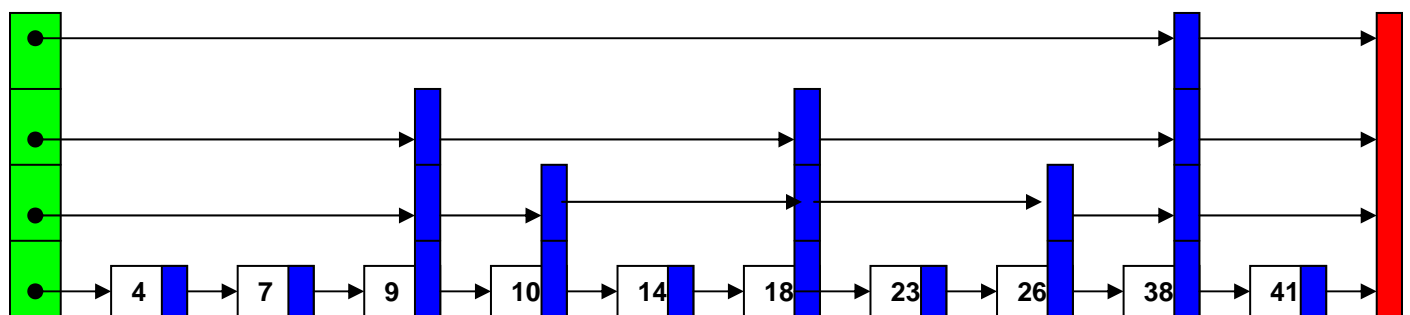


COP 3530 – Exam #1 Review Problems – Summer 2005

1. Assume the tree shown below is a splay tree. Given this initial tree, show the effects of the splay steps necessary to (a) insert 7 and (b) get 23.



2. Shown below is a four-level irregular skip list.
 - (a) Assuming that we are searching for the value **9**, list the exact sequence in which the nodes of the list are visited during this search.
 - (b) Assuming that we are searching for the value **25**, list the exact sequence in which the nodes of the list are visited during this search.



3. Construct a 2-4 tree based on the following sequence of insertions: 9, 3, 6, 5, 8, 12, 7, 4.