| COS 226 Fall 2009 Class Exercise 6 | 4 questions; 4 pgs. | Due 2009-09-22 3:15 p.m. |
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1. List the members of your group below:
2. Depict the $A V L$ tree resulting from the insertion of the following keys, in the order listed, into an empty tree.

$$
8,5,21,3,9,7,1,2,11,14
$$

Show all intermediate steps. In particular, depict the state of the tree immediately following each insertion, before and after any necessary balancing operations. Identify the type of each balancing operation used and the root of the subtree to which it is applied.
[additional space for answering the earlier question]
3. Depict the AVL tree resulting from the deletion of each of the following keys, in order, from the last tree of Question 2.

$$
14,7,8,1
$$

4. Depict the AVL tree resulting from the sequential insertion of $1,2,3, \ldots, 10$ into an empty tree. Intermediate trees need not be depicted.
