

# CSE 373 Lecture 11 In-Class Worksheet – Fall 2018

Name: \_\_\_\_\_ Date: \_\_\_\_\_

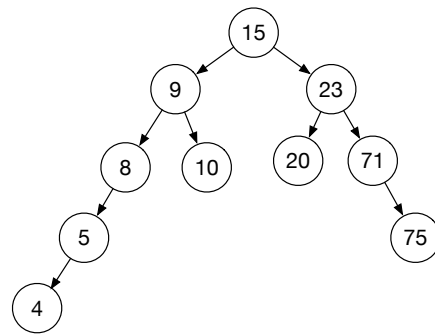
UW Student #: \_\_\_\_\_ UW Email address: \_\_\_\_\_

Partner name(s) for this activity: \_\_\_\_\_

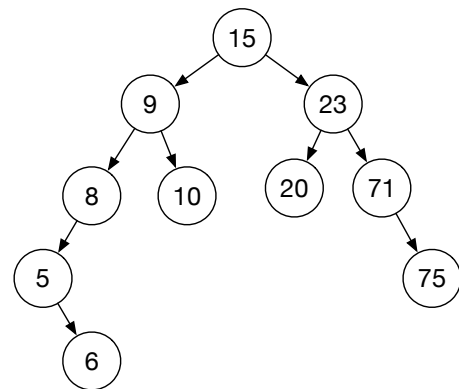
Will you want to pick up your worksheet later? Circle one:    Yes    /    No

**(Q1)** Answer the following questions for the corresponding tree (on the right):

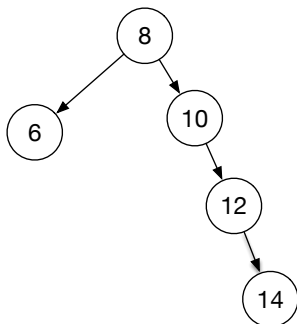
- A. Is this a BST? (Y/N):
- B. Highlight the AVL unbalanced node:
- C. Is this a 'line' or 'kink' case?
- D. To make this AVL balanced, how many rotations do you need? (single/double)



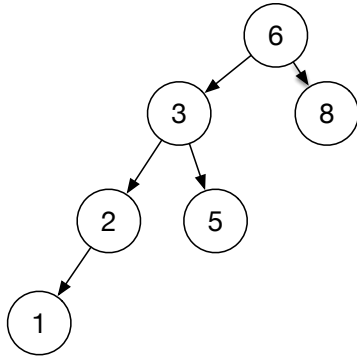
- A. This is an unbalanced AVL tree. Is the imbalance a 'line' or a 'kink' case?
- B. To make this AVL balanced, how many rotations do you need? (single/double)
- C. If we remove node 6, will the resulting tree be an AVL tree?



**(Q2)** Fix the following unbalanced tree with appropriate rotation(s)



**(Q3)** Fix the following unbalanced tree with appropriate rotation(s)



**(Q4)** Draw the AVL tree that results from inserting the keys 1, 3, 7, 5, 6, 9 in that order into an initially empty AVL tree. (*Hint: Drawing intermediate trees as you insert each key can help.*)