

3) (10 pts) ALG (AVL Trees)

Draw an AVL tree **of integers** and designate a single node in the AVL tree such that, if that node were to be deleted, two rebalance operations (not one double rotation, but two separate operations at two different nodes) would occur. Clearly label the node to delete which would precipitate those operations and show the result of deleting that node. (Thus, you should have two drawings, a before drawing of the original tree with the node to be deleted clearly designated, and an after drawing showing what the tree looks like after the node is deleted and goes through 2 rebalance operations.)

Computer Science Foundation Exam

August 28, 2021

Section II A

ALGORITHMS AND ANALYSIS TOOLS

**NO books, notes, or calculators may be used,
and you must work entirely on your own.**

Name: _____

UCFID: _____

NID: _____

Question #	Max Pts	Category	Score
1	10	ANL	
2	10	ANL	
3	5	ANL	
TOTAL	25		

You must do all 3 problems in this section of the exam.

Problems will be graded based on the completeness of the solution steps and not graded based on the answer alone. Credit cannot be given unless all work is shown and is readable. Be complete, yet concise, and above all be neat. For each coding question, assume that all of the necessary includes (stdlib.h, stdio.h, math.h, string.h) for that particular question have been made.