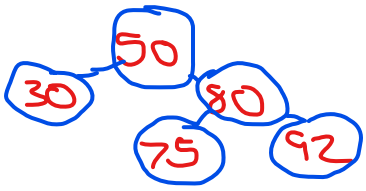
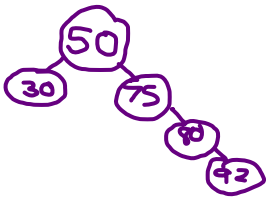
Computer Science I – Exercise
AVL Trees

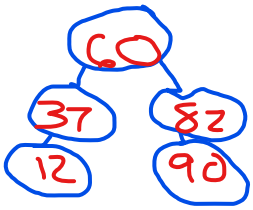
1. Insert the following elements on an AVL tree. If the tree becomes unbalanced, balance the tree and redraw the tree:

a) 50, 30, 75, 80, 92

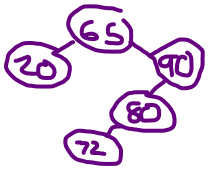


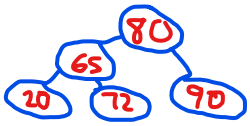


b) 60, 82, 37, 90, 12

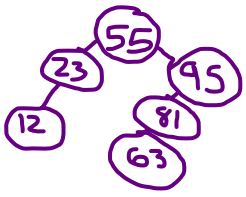


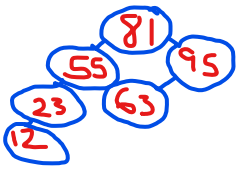
c) 65, 90, 20, 80, 72



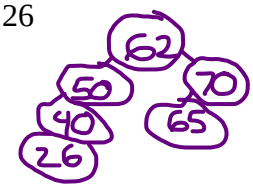


d) 55, 95, 23, 81, 12, 63

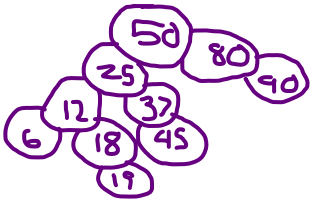


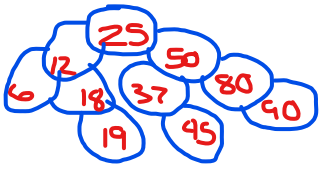


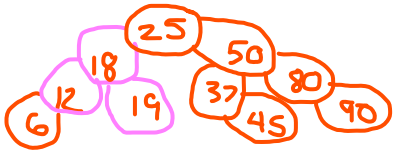
e) 62, 50, 70, 40, 65, 26



f) 50, 25, 12, 80, 90, 37, 45, 18, 19, 6

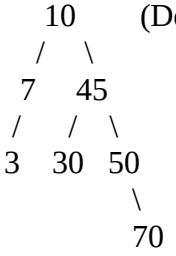


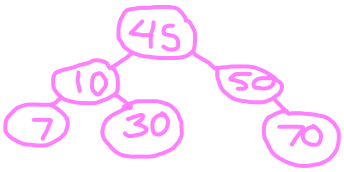




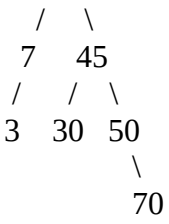
2. Draw the result of deleting the designated value from the AVL trees shown below:

a) (Delete 3)

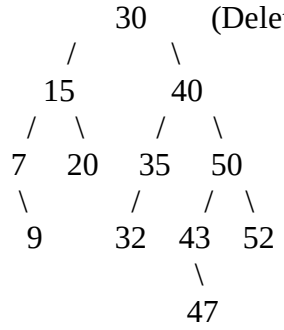




b) (Delete 30)



c) (Delete 35)



d) (Delete 20)