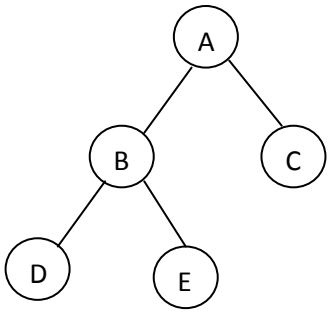
COMP 550, Spring 2015
Quiz 3 (close book)
Mar 4, 2015

1) (80') Name: ___SOLUTION_____ PID:_____

2) Given the binary tree to the right:



(a) (5') What's the print out order of the *in-order tree walk*?

DBEAC

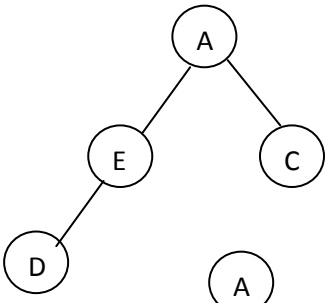
(b) (5') Recall that in a *binary search tree (BST),* a key is no smaller (greater) than any keys stored in nodes of its left (right) subtree. Tick the ones among the following conditions that are **necessary** for this tree to be a BST:

_ √ __D<=A; _ √ __E<=A; _ √ __B<=C; __ √ __E<=C; ___ B!=A

(it says any key in its subtree, not only children nodes)

(c) (5') Assume it is a binary search tree, draw the tree after deleting B.

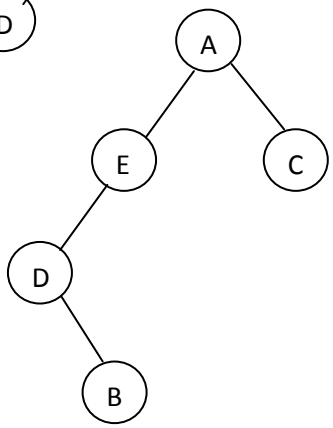
(we use the successor, not predecessor)



(d) (5') Insert B again into the tree, assuming that D<B<E.

(Draw the tree after insertion)

In BST, insertion is very similar to search, and you always end up with a leaf node during insertion!



3) (Bonus 5') Any suggestion is welcomed and appreciated! (regarding HWs, exams, quizzes, lectures, projects, etc.)