Binary Search Tree Traversals

September 18, 2018

Depth traversals
Pattern of writing data at current node (C) recursing right (R) and left (L), in different orders.
Pre-order: CLR
In-order: LCR (outputs data in sorted order)
Post-order: LRC
Each should be implemented recursively and has complexity O(n).

Bredth traversals
Level order: nodes are arranged by depth. Not recursive.
1. Add root to a queue
2. Iteratively remove the next node from the queue
3. Record the removed node data
3. Enqueue the removed node's children

Common errors (homework)
Using compareTo with $-1, 0, 1$ instead of $< 0, 0, > 0$.
When removing a node with 2 children, calling remove on the successor.
Forgetting to "reinforce" the root (it should be root = add(root,data)).
Doing depth traversal iteratively..
Doing level traversal recursively.