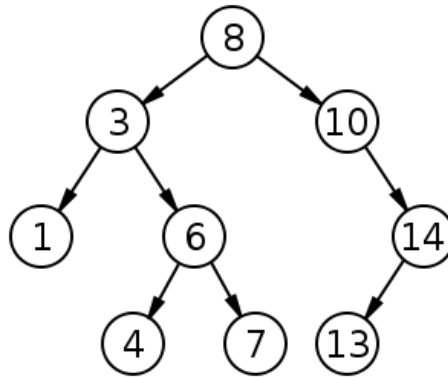


BST's and AVL Trees



Show the Traversals

Pre-Order: _____

In-Order: _____

Post-Order: _____

Definition of BST

- Collection of nodes that hold data
- Each node in the tree is connected to another
- A node can have no more than 2 “children”
- The left subtree of any given node will only contain data values less than the value of that node
- The right subtree of any given node will only contain data values greater than the value of that node

Definition of AVL Tree

- A binary tree that is self-balancing.

Description of AVL Tree Node

- Field for holding data
- Field for accessing right subtree
- Field for accessing left subtree
- Field for keeping track of height

Description of BST Node

- Field for holding data
- Field for accessing right subtree
- Field for accessing left subtree

Runtime Analysis:

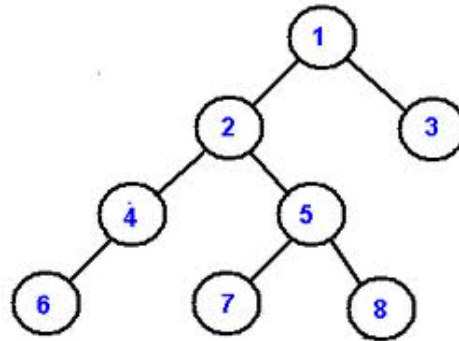
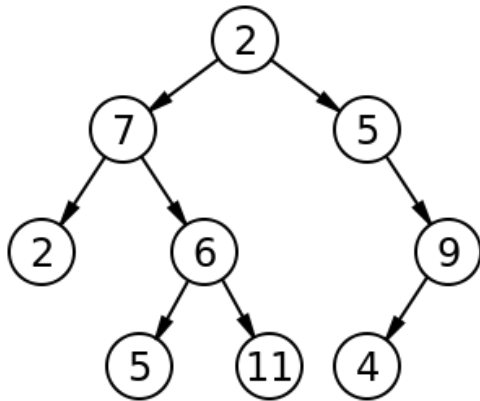
	BST:	AVL Tree:
find():	_____	_____
insert():	_____	_____
delete()	_____	_____
buildTree()	_____	_____

AVL Operations:

- Single Rotation
- Double Rotation

Practice Problems:

1. Is it a BST? Is it an AVL Tree? (If not, circle nodes that violate the rules of each)



BST: _____

BST: _____

AVL: _____

AVL: _____

2. Adding values to a BST in a certain order, what does the resulting tree look like? How about AVL?

2, 6, 8, 1, 9, 13, 7