

Example Questions for 340 Test II

Multiple choices:

1. Which of the following is true:
 - a) A binary tree is a binary search tree.
 - b) A heap is a binary search tree.
 - c) An AVL tree is a binary search tree.
 - d) None of the above.
2. When inserting a node into a binary search tree, the new node will always be inserted as:
 - a) the root
 - b) a node in the left subtree
 - c) a leaf node
 - d) a node in the right subtree

Questions:

1. To print the values of a BST in a sorted order, we should use what type of traversal?
2. Explain what are the pros and cons of using an AVL tree versus a BST?
3. Explain the differences between double rotation and single rotation for AVL tree.
4. **Build an AVL tree by inserting 2, 5, 8, 9 one by one to an originally empty tree.**
5. Transform an array [1 5 8 3] into a max heap. You can use either the bottom-up or top-down approach.

Coding:

Coding on map: how to iterate through a map?

STL high order algorithms (for_each, find_if).

Binary Tree operations. E.g. height(); delete()
Some simple Binary Search Tree operations.