CIS263 Assignment Four

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Complete each of the following:

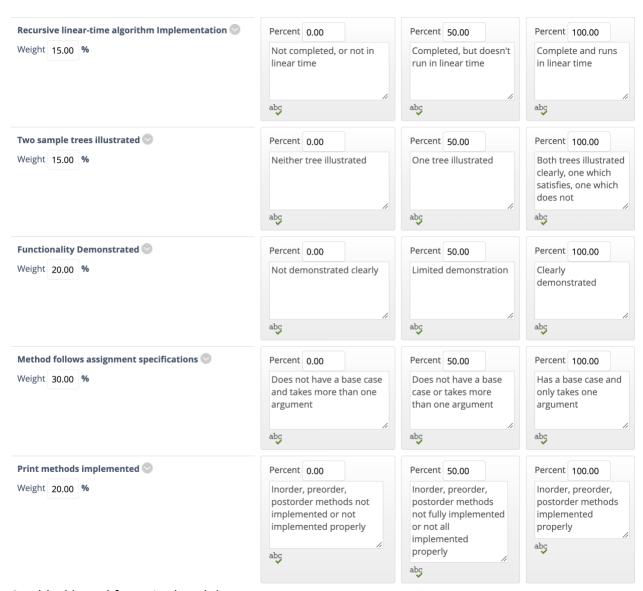
- 1. Programmatically implement a tree that includes the following:
 - a. A node that has 3 properties:
 - i. value
 - ii. leftChild
 - iii. rightChild
 - b. Pointer or variable that indicates the root of the tree
- 2. Create three methods that print out the values of the tree using an inorder, preorder and postorder tree walk.
- 3. Write-up pseudocode for a method that runs in linear time that determines if the tree passed to it is a binary search tree. The method can only take one argument (or none) and must have a base case. After the pseudocode has been developed, implement it using one of the approved languages.

Hand-in:

- 1. Two sample trees (hand written or digitally rendered), one sample should satisfy the search tree order property, the other one should not. Each tree must have a minimum of 8 nodes.
- 2. The pseudocode you created for step 3.
- 3. The output demonstrating the functionality of your program for each of the above sample trees.
- 4. A file containing the implementation source code (no zip files).

Approved programming languages: C, C++, C#, Python, Java.

Grading Rubric (scroll down):



See blackboard for point breakdown.