**Module 6 Critical Thinking Option #1: Binary Search Tree**

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My Python code defines a binary search tree (BST) implementation with the classes Node and Tree. Following is an explanation of the code:

**Node Class:**

The Node class represents a node in the binary search tree.

It has attributes data, left, and right to store the node's value, and references to its left and right children.

The \_\_lt\_\_ method is defined to compare nodes based on their data values.

**Tree Class:**

The Tree class represents the binary search tree itself.

The constructor initializes the tree by building it from a sorted set of unique values provided in data\_array.

The build\_tree method constructs the tree recursively by finding the middle element as the root and splitting the array into left and right subtrees.

The insert method inserts a new value into the tree by recursively finding the correct position for insertion.

The delete method removes a node with a specific value from the tree, handling cases where the node has zero, one, or two children.

The \_find\_min\_value\_node method finds the node with the minimum value in a subtree starting from a given node.

**Example Usage:**

An example usage creates a binary search tree from the data\_array = .

It then prints out the tree using an ASCII representation.

It demonstrates inserting a new value (11) into the tree and deleting a specific value (8), followed by printing out the updated tree structure.

This code provides a basic implementation of a binary search tree with functionalities for insertion and deletion operations. It showcases how these operations can be performed on a binary search tree data structure in Python.

**References:**

* Boot.dev. (n.d.). Writing a Binary Search Tree in Python with Examples. Retrieved from https://blog.boot.dev/computer-science/binary-search-tree-in-python/
* GeeksforGeeks. (n.d.). Binary Search Tree. https://www.geeksforgeeks.org/binary-search-tree-set-1-search-and-insertion/
* zyBooks. (2023, November 16). Data Structures Essentials with Python Examples - zyBooks. <https://www.zybooks.com/catalog/data-structures-essentials-python/>

**GitHub link**: