

COSC 2007 Section O & LAB O

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Lab 7: AVL Tree

Pseudocode/Algorithm:

- Create a Node class with the following attributes:
 - key: the key value of the node
 - height: the height of the node
 - left: the left child of the node
 - right: the right child of the node
- Create an AVLTree class with the following attributes:
 - root: the root node of the tree
- Create a height method that returns the height of the specified node.
- Create a getBalance method that returns the balance factor of the specified node.
- Create a rightRotate method that performs a right rotation on the specified node.
- Create a leftRotate method that performs a left rotation on the specified node.
- Create an insert method that inserts a new node with the specified key into the AVL tree.
- Create a preOrder method that performs a pre-order traversal of the AVL tree starting from the given node.
- Create a main method that creates an AVL tree and inserts the following nodes into it: 10, 20, 30, 40, 50, 25.

Code:

No input necessary

Output:

The algorithm works as expected.