Data Structures 11/30/2016

0145-343-001

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ANNOUNCEMENTS

* Last programming assignment due Friday December 2nd

Notes:

PowerPoint: <http://home.adelphi.edu/~siegfried/cs343/343l7.pdf>

Topic: Searching (trees)

AVL Tree

* Normally the lesser values go on the left of a tree, and the greater on the right
* An AVL tree is a special tree that preserves the above hierarchy by rotating itself to balance the tree such that the left and right children differ by no more than 1 level
* The rotation is done in such a way that the INORDER traversal before balancing is the same after
* The reason why INORDER is preserved is to preserve the left-to-right increasing hierarchy. Note that PREORDER and POSTORDER may be affected.
* Note that rotating the tree (to the left or right) only consists of **4** operations, which means that the complexity is constant, namely ***O***(1).

General Search Trees

* Ex: B- Tree