

King Fahd University of Petroleum & Minerals
College of Computer Science and Engineering
Information and Computer Science Department
ICS 202 – Data Structures

[AVL Trees](#)

Objectives

The objective of this lab is to design, implement and use AVL trees.

Outcomes

After completing this Lab, students are expected to:

- Design classes for AVL trees.
- Delete from AVL trees.

Notes

For the purpose of this lab, you may download the attached programs.

Lab Exercises

1. Complete the class **AVLTree** that extends **BST**. It should have four methods **RotateLeft**, **RotateRight**, **RotateLeftRight**, and **RotateRightLeft**. You have to provide the methods **rotateRight()**, **rotateLeftRight** and **rotateRightLeft**. Provide the method **delete()** to delete elements in the AVL tree.
2. Create an AVL tree in which the following keys are inserted in the given order:
8, 12, 14, 18, 20, 23, 15, 13, 7, 16

Then ask the user to provide any 3 elements to delete. Print the resulting AVL tree in BFS.

3. Create an AVL tree of strings. Test your program on any given text file. After creating the **AVLTree** of strings, print the **AVLTree** using inorder traversal.