Assignment 2 Report

I have created a class/program GenericskbAVLApp which uses an AVL tree (AVL.java) to perform operations on data input. These operations include insertion and searching. The AVL tree itself uses the Binary Trees and its nodes. GenericskbAVLApp reads in input from a text file and stores it in an AVL tree ,the input is data if the form of an item consisting of a term which can be used as a key, sentence and confidence score.

We have another text file used for queries from which we read item names and then use that to search for an item with the same term in the AVL tree.

Experimental Setup

The count variables were added as I modified the code further to help calculate the number of key comparisons and the number of insertion and searching operations in total and a print statement to print out the final results. The counting variables were reset before each operation to help wit the accuracy of the results as resetting the counters before each operations ensures that the measurement of comparison operations is isolated for each specific operation ,enabling meaningful analysis and interpretation of the results.

The experiment and the goal of the experiment

This report is about testing the efficiency of AVL trees and

whether they will balance themselves with varying input sizes. The goal of the experiment is to use input of different sizes to test and compare with theoretical expectations. During the experiment I created a random subset of n entries from the sample data and for each subset I stored all the count variables. After the results were printed out on the screen I recoded all of them with the aim of categorising them as the either the minimum,everage or maximum case.