Exercise 4 – BST Sort

Due by the end of your Week-5 laboratory class. (2 marks)

This exercise is to be done during your week 5 laboratory class. When you complete the exercise show your work to your lab tutor to have your work marked. The marking is based mainly on correct implementation and code readability. You should implement your code in one file (e.g. ex2.cpp, ex2.c, ex2.java). Make sure your program has a header comment block containing the name of the exercise, your name and your student login (e.g. jfk01). You may implement your solution in C, C++, java or Python.

For this exercise, you are to implement BST sort and test it for correctness.

As usual, your program will prompt for the name of an input file and the read and process the data contained in this file.

The file contains a sequence of integer values. Read them and construct a binary search tree from the values in the order they are read. Thus; the first number read will be the root of the tree.

For this exercise, you may use dynamic data, but you should attempt to store the numbers in an array.

You do not need to balance the tree as you construct it.

When you have read the last value into the BST, conduct an in-order traversal to output the values in ascending order.

Print them 10 to a line in a 5-character wide field.

As usual, do not use classes or STL.

When you are finished, test your program using the provided text file named “Ex4.txt” and show your code and the output to your lab tutor to receive your mark.