CST 370
Programming Assignment (Binary Search Tree)

1. Download the source programs for Binary Search Tree (**BST.cpp**, **BST.h**, and **Sample_BST_tester.cpp**) from **iLearn**.

(a) Change the current **`search()`** function to a **recursive** version.

(b) Add a new member function called **`inOrder()`** that implements the inorder traversal algorithm of a binary search tree. Your function should display each node data on the screen.

```
void BST::inOrder()
```

(c) Add a new member function called **`preOrder()`** that implements the preorder traversal algorithm of a binary search tree. Your function should display each node data on the screen.

```
void BST::preOrder()
```

(d) Add a new member function called **`nodeCount()`** to count the number of nodes in a binary search tree. In this function, you should use a **recursive** function. You can't just use a variable such as "mySize".

```
int BST::nodeCount()
```

(e) Update the **`Sample_BST_tester.cpp`** to show the execution of the functions.

Grading

I will download your code on my computer and execute it. If your code does not compile, you may lose more than 50% of your points (based on my discretion). If your code compiles, but still produces incorrect results you may still lose more than 30% of your points (based on my discretion).

You are expected to provide code which will execute on Visual Studio and display the output.

Your code should have the following characteristics for you to get full points on the assignment

1. Compile without error.
2. Produce correct output.
3. Good programming structure.
4. Comments. (Title, Abstract, Author, ID, and Date are mandatory.)
5. Meaningful and related variable names.

What to turn in?

Submit your source programs **and 'HomeworkSubmission_yourlastname.pdf' as a single zipped file** on iLearn.

If you do not submit the above mentioned documents in the format specified your assignment will not be graded.

Homework Submission_yourlastname.pdf
For each homework problem, you are expected to submit screenshots of the results obtained from running your code. You should also explain what each screenshot means and why the result on the screenshot is correct.

This link explains how to take screenshots in Mac and Windows.
http://www.take-a-screenshot.org/