Group Leader:

Group Tester:

Group Requirement Leader:

Group Documenter:

Course:	CS 355	Assignment Number:	6
Semester:	Fall 2012	Assignment Type:	Homework 4 – Group 2

Assignment Description: Implement a template Binary Search Tree.

Assignment Due Date: Tuesday, October 2, 2012 (precisely at 12:30 p.m.)

To Be Included in Portfolio: YES

Total Grade: Coding Requirements Grade (60), Test cases Grade (20), Analysis Grade (20)

Coding Requirements:

1. _____ BNode class complete
   a. ____3 Node Constructors
   b. ____ GetData
2. _____ BST class complete
   a. ____ BST constructor
   b. ____ BST copy constructor
   c. ____Destructor
   d. ____Assignment operator
   e. ____Insert (in order, return true or false, place cursor at new item)
   f. ____Remove (given item to remove, return true or false, place cursor at parent of removed item or at root
   g. ____Search (return address if found from cursor to end of list, return NULL if not found, place cursor at found location or at end of list (rightmost node) if not found)
   h. ____Test Print Routine (Print the list (in order) separated by tabs, print square brackets around the value at cursor)
   i. ____AtCursor (return data item at the cursor)
   j. ____GoToBeginning (move cursor to beginning of the list, NULL if empty)
   k. ____GoToEnd (move cursor to last item in list, NULL if empty)
   l. ____GoToNext (move cursor to next slot, if on last item, move to first item)
   m. ____GotToPrev (move cursor to the previous slot. If on first item, move to last)
   n. ____ClearList (deallocate space, set head and cursor to NULL, can be called from destructor)
   o. ____EmptyList (return true if empty, false otherwise)
   p. ____PrintPre (print preorder)
   q. ____PrintPost (Print postorder)

Test Case Requirements Met:

____ created at least one test case for each method

____ test cases showed methods were correct

Analysis Requirements Met:

____ Clear and correct communication

____ Reasonable/correct answers and justifications

Name:

Course: CS 355

Semester: Fall 2012

Assignment Number: 6

Assignment Type: Homework 6 – BST – Test Cases

Assignment Description: Create Test ensure your data structure is correct and robust.

Assignment Due Date: Tuesday, October 2, 2012 (precisely at 12:30 p.m.)

To Be Included in Portfolio: YES

Test Case 1 - <Give description of what you are testing>

Note: Feel free show a different format if it fits what you do.

Date/Time:	Expected Result	Actual Result	Action needed (Yes/No)

Name:

Course: CS 355

Semester: Fall 2012

Assignment Number: 6

Assignment Type: Homework 3 - Analysis

Assignment Description: Carefully answer the questions below. Be sure you answer in complete sentences and with correct grammar. The space provided is not an indicator for the space needed to answer the question. Your responses MUST be typed and printed before you arrive to class.

Assignment Due Date: Thursday, October 4, 2012 (precisely at 12:30 p.m.)

To Be Included in Portfolio: YES

Question 1: Consider the runtime of GoToNext vs. GoToPrevious routines. State the runtime of each. Follow the statement of each with a justification.

O ( ) Go To Next

Justification:

O( ) GoToPrevious

Justfication:

Question 2: Consider the runtime of GoToBeginning vs. GoToEnd routines. State the runtime of each. Follow the statement of each with a justification. Discuss what change(s) could be made to the class to make GoToEnd a more efficient routine. Give a justification for each change.

O ( ) GoToBeginning

Justification:

O( ) GoToEnd

Justfication:

Question 3: If you wanted to find the minimum value in the BST, what would the runtime of the algorithm be? Explain your answer.

O ( ) GetMin

Justification: