CSIS 211 – Data Structures
Spring 2017
Lab #5 – Due Date: 06/05/17 at 11:55 pm
Remember to submit ALL files (.cpp,.h etc.) on Moodle – NO EMAILS – no exceptions
You may work in a group of 1-3 for this assignment
EACH group member should submit just to make sure I don't miss any while grading
IMPORTANT! – put EACH group member's name at the TOP of the CODE in comments
If you are a group of 1 put your name only at the top
Make sure and use good design techniques
This will be worth 50 points

For all Programs:
Do NOT forget to put ALL your groups names at the TOP of EACH FILE in comments.
Example:
//LAB 3
//Group: Kristina Shroyer, John Smith, Jane Doe
Do this EVEN if you have a group of 1
Since this is very important

Lab #3 – Pointers, Dynamic Memory Allocation, Linked Bags

This is an object oriented program – you should use the following files from the Chapter 9 Example programs as a starting point for this assignment: LinkedList.h, ListInterface.h, Node.h

For this assignment you are going to modify the LinkedList class, add some new function templates to the LinkedList and then test out your new LinkedList in a client program. Note ListInterface.h and Node.h should NOT change:

1. **Add a tail pointer to the LinkedList data type. A tail pointer is a pointer that points to the last node in the list.**
2. **Add a contains method to the LinkedList (you already did this in homework)**
   - Add a member method to the LinkedList named contains that takes one argument of type ItemType. The method should return true if the argument is in the List and false if not.
3. **Add a method named findLargest to the LinkedList**
   a. The findLargest method should return the largest item in the list. So if it's a list of ints and the node with the largest int contains a 1000 the method should return 1000. Note this method will only work with lists that contain items that can be compared with the < and >.
4. **Add a getLast method to the LinkedList**
   - Add a getLast member method to the LinkedList that returns the value in the last node of the list

Finally create a client program to test the methods you added to LinkedList

Make sure and test the methods various lists. You will need some way to display the items in the list – feel free to add a display function to our client program.