LAB #3 – Creating and Using Classes

Remember, you will not receive lab credit if you do not get checked off before leaving each lab. Once you have a zero on a lab, then it cannot be changed because we have no way to know if you were there or not! You must get a score of at least 5 or you cannot submit it later. If you need to get last week’s lab graded, you need to show your program to the TAs within 10 minutes of getting to this lab.

You need to design, implement, and test a grocery shopping list program. The program should maintain and display a list of items.

Design: Sit down with 1 or 2 others and create your design for the following requirements.

**Item Class:** You will use a class for the Items. The class should have data elements for the following information: item name, unit (i.e. can, box, pounds, or ounces), number to buy, and unit price. Do you need any functions other than the constructor(s)? How do you calculate the extended price for the item (number to by times unit price)? How do you print it to the screen?

**List Class:** You will also need a List class. The List class will use a dynamic array to store Item objects. As each item is entered an Item object must created and added to the array. What do you do if the array is full? One List object will have many Item objects. How do you print to the screen?

**Operations:** Your program must perform the following activities: create a list, add items, and remove items. To add an item you should prompt the user to enter the name, unit of sale, the number needed, and the unit price.

**Displaying the list:** The display should show: for each item in the list, the number of items, the unit of sale, the unit price, the extended price for each item; then the total price for all items. Oregon doesn’t have a sales tax so you can ignore that. 😊 Debug and test your program.