CIT 130   Beginning Java
Assignment #6 – Total Points = 100

Assigned Date: 9/24   <u>Date Due: 10/4</u>

DO NOT share your answers with anyone. DO NOT collaborate on completing work with anyone. DO NOT use the Internet to search for solution to assignments. DO NOT pay anyone to write your code. Failure to meet this requirement leads to a violation of the academic integrity principles.

Helper File: See the helper files located under the assignment link where you picked up this assignment file for a sample question and answer.

Grading Criteria File: See the grading criteria file under the assignment link where you picked up this assignment file for a sample question and answer.

Objective: Demonstrate your understanding of Java **repetition** structure. This assignment is based on the material covered in **chapter 5** of your textbook.

Note: **For an example of a continuous menu loop, see the file MenuExample.java**

Assignment: Write a Java program to display a menu of 3 options/parts. Option 1 processes student grades. Option 2 processes purchases made by a user. Option 3 is used to exit the program. Display all decimal output with 2 digits after the decimal point.

Process and additional criteria:
- Part 1/menu option 1
  a) Ask the user for the number of assignments given in a course. Make sure the user enters 1 or more assignments.
  b) Ask the user for the score on each assignment and calculate the average assignment score. Make sure that the user enters a valid test score (values between 0 and 100).
  c) Ask the user for grade for 2 exams and the final exam. Make sure that exam scores are between 0 and 100. Calculate the overall grade by: (assignment average * .65) + exam1 * .10 + exam2 * .1 + Final Exam * .15.
  d) Calculate and display the final letter grade based on the table in your syllabus.
- Part 2/menu option 2
  a) Allow the user to enter prices for as many items as the user wants to purchase. Allow for a sentinel value to end the input loop. Do NOT ask for a yes/no type of responses to accept more input. The sentinel value should correspond to the type of entered data. You could use a negative number as a sentinel value for price to end the input loop.
  b) Calculate and display the **total** amount of all purchases and the **number of items** purchased.
  c) Calculate and display the total amount with an applied 8% tax rate.
  d) Calculate and display the average price of all purchases after the application of tax.

Submit your Java file. Use the file format: **firstNameLastNamecit130_hw6.java** for your file name. NOTE: Java class names must being with a capital letter (i.e., FooBarcit130_hw6.java). Submit your file to the assignment dropbox in Canvas. The following is a sample run of the code. Make sure to fully test your program. **Your processing must be VERY similar to the sample run**. For example, the headings such as *** Student Report *** must be displayed in the output. There is a $ symbol before the monetary amount.

NOTE: You should always test your code with other values to make sure it works.

SAMPLE RUN:

Part 1 –
Enter the number of assignments: 3
Enter grade for assignment 1: 80
Enter grade for assignment 2: 70
Enter grade for assignment 3: 90
Enter grade for exam 1: 73
Enter grade for exam 2: 84
Enter grade for final exam: 92

*** Student Report ***
Overall grade: 81.5
Letter grade: B-

Part 2 –
Enter the price of an item (any negative number to end): -1
No data was entered

Enter the price of an item (any negative number to end): 100
Enter the price of an item (any negative number to end): 20
Enter the price of an item (any negative number to end): 50
Enter the price of an item (any negative number to end): -1

*** Report ***
Total amount of purchases: $170.00
Number of items purchased: 3
Total amount plus tax (8%): $183.60
Average Price: $61.20