ECCS 1611 – Programming 1

Lab 3 – Calculations

**Programming practice with performing simple calculations.**

Please write the following programs using Visual Studio or XCode. When completed, Submit your .cpp files, screenshots, and check-sheet on Moodle. All problems are based on practice and programming project exercises from Chapter 2 of the textbook.

**P3.1** Write a program that prompts the user for two integers and then prints:

• The sum,

• The difference,

• The product, and

• The average, with this particular value displayed as a floating-point value.

Example Run (user input in ***bold italics***):

Enter integer 1: ***5***

Enter integer 2: ***2***

Sum is 7

Difference is 3

Product is 10

Average is 3.5

**P3.2** Write a program that helps a person decide whether to buy a car. Your program is to prompt the user for the following **inputs**:

* The cost of a new car.
* The estimated highway miles per gallon for the car.
* The estimated miles driven per year.
* The estimated gas price.
* The estimated number of years that the car will be used.
* The resale amount for the car (i.e., the amount the dealer gives you for your car at trade-in).

The output should present the net total cost of owning the car.

Example Run:

Enter cost of car: $***10000***

Enter MPG: ***20***

Enter miles driven per year: ***12000***

Enter gas price: $***2.50***

Enter years of use: ***4***

Enter car resale amount: $***2000***

Net cost of car ownership: $14000

**(one more problem on next page)**

**P3.3** The following pseudocode describes how a bookstore computes the price of an order from the total price and the number of the books that were ordered:

**Read the total book price (i.e., cost of all books purchased)**

**Read the total number of books purchased.**

**Compute the tax (7.5% of the total book price).**

**Compute the shipping charge ($2.50 per book).**

**The price of the order is the sum of the total book price, the tax, and the shipping charge.**

**Print the price of the order.**

Translate this pseudocode into a C++ program.

Example Run:

Enter total cost of all books: $***100.00***

Enter total number of books purchased: ***2***

Price of order is $112.5