CS-M10B – Object Oriented Programming Using C++

Project Assignment #5

Student Name: .

Student ID Number: .

This project is based on the exercise we have done in class (Length #1):

* + - * Define a class named ‘*Length*’
      * The class maintains two private integer variables ‘*feet*’ and ‘*inches*’
      * The class has a parameterized constructor that initializes the ‘*feet*’ and ‘*inches*’ values based on arguments received from the instantiating program.

The constructor verifies that the ‘*inches’* parameter is in the range of 0 – 11.

If *inches* < 0, the constructor will save 0 in the *inches* variable and print a message “*inches are outside the allowed range, setting inches to 0*”

If *inches* > 11, the constructor will save 0 in the *inches* variable, increment ‘feet’ by one and print a message “*inches are outside the allowed range, setting feet to <xxx> and inches to 0*” (*<xxx>* is the actual value of *feet*)

There is no need for any other input verification

* + - * The class has accessor and modifier functions to retrieve and set the private data members.
      * The class has an overloaded operator ‘++’ that pre-increments the value of inches
      * The class has an overloaded operator ‘+’ that adds two Length object as follows:

*Length len1(10,2), len2(5,3);*

*Length len3 = len1 + len2;*

* + - * Remember: for both overloaded operators, if the resulting value of *inches* exceeds 11, the operators need to “wrap-around”: subtract 12 from *inches* and add 1 to *feet*

Write a test program that exercises the class features. It prompts the user for values of *feet* and *inches*.

Please make sure that the test program fully exercises the class features.

Please submit the following:

* A **single** source code file named *week5.cpp*