Bachelor of Technology Partnership

C++ Programming – SFWR TECH 3PR3
Classes

Assignment 4

1. Write a C++ program related to a clock
   - Define a class called Clock , saved in a separate file, that includes the following members:
     - three member variables related to the hours, minutes and seconds
     - one accessor function that returns the values of the three variables (hint: use pointers)
     - one mutator function that modifies all variables (hint: use three arguments)
     - functions to increment each variable with 1 (hint: three functions)
     - overloading functions to increment the variables with a value entered by the user (hint: the value is the argument of the function)
     - one default constructor that sets the clock to 0 hours, 0 minutes and 0 seconds
     - an overloading constructor that sets the clock to a given time (hr, min, sec)
   - Define a second class (design a class on your own), saved in a separate file, that includes
     - a static member variable
     - a static member function
   - Include in the previously defined files C++ code that insures that a class will not be loaded twice in the main program
   - Define a main program, saved in a separate file, that
     - instantiates three objects, one with the default constructor of Clock, one with the overloaded constructor of Clock, and one based on the second class
     - uses the objects to call all the functions defined in the two classes:
       - use several "cin" statements to read from the user the desired time and use the values as parameters for the corresponding functions that required
       - call each function only once, using one of the defined objects
       - use the accessor function to print the time after each function call that modifies the variables of the Clock class
     - includes code that uses the static members of the second class

Create a Word .doc file that contains the source code and a screen captures of the console window as the program is running, for all C++ programs. Save this file as *YourName_Assignment_1.doc* and upload and submit to the appropriate AVENUE lab assignment drop-box.