CS2006 C++ Lab Exercises
Week 15

1. Create a class called time that has separate int member data for hours, minutes, and seconds. One constructor should initialize the data to 0, and another should initialize it to fixed values. Another member function should display it, in 11:59:59 format. The final member function should add two objects of type time passed as arguments. A main() program should create two initialized time objects (const) and one that isn't initialized. Then it should add the two initialized values together using an overloaded + operator, leaving the result in the third time variable. Finally it should display the value of this third time variable. Make appropriate member functions const.

2. Modify the FeetInches class (in Sample Programs) so it overloads the following operators:
   <=
   >=
   !=
   Demonstrate the class's capabilities in a simple program.

3. Add a copy constructor to the FeetInches class. This constructor should accept a FeetInches object as an argument. The constructor should assign to the feet attribute the value in the argument's feet attribute, and assign to the inches attribute the value in the argument's inches attribute. As a result, the new object will be a copy of the argument object. Next, add a multiply member function to the FeetInches class. The multiply function should accept a FeetInches object as an argument. The argument object's feet and inches attributes will be multiplied by the calling object's feet and inches attributes, and a FeetInches object containing the result will be returned.

4. Make a LandTract class that is composed of two FeetInches objects, one for the tract's length and one for the width. The class should have a member function that returns the tract's area. Demonstrate the class in a program that asks the user to enter the dimensions for two tracts of land. The program should display the area of each tract of land and indicate whether the tracts are of equal size.