

CSIS 1410
Object Oriented Programming
Homework 1

Due: Sep. 7, 2016

The Assignment:

Use dialog boxes for input and output when appropriate.

(The **Time** class) Design a class named **Time**. The class contains:

- The data fields **hour**, **minute**, and **second** that represent a time.
- A no-arg constructor that creates a **Time** object for the current time. (The values of the data fields will represent the current time.)
- A constructor that constructs a **Time** object with a specified elapsed time since midnight, January 1, 1970, in milliseconds. (The values of the data fields will represent this time.)
- A constructor that constructs a **Time** object with the specified hour, minute, and second.
- Three **get** methods for the data fields **hour**, **minute**, and **second**, respectively.
- A method named **setTime(long elapsedTime)** that sets a new time for the object using the elapsed time. For example, if the elapsed time is **555550000** milliseconds, the hour is **10**, the minute is **19**, and the second is **10**.

Draw the UML diagram for the class and then implement the class. Write a test program that creates two **Time** objects (using **new Time()** and **new Time(555550000)**) and displays their hour, minute, and second in the format hour:minute:second.

(Hint: The first two constructors will extract the hour, minute, and second from the elapsed time. For the no-arg constructor, the current time can be obtained using **System.currentTimeMillis()**, as shown in Listing 2.6, ShowCurrentTime.java.)

Administration:

Students are expected to do their own work.

If programs turned in are so similar that it is obvious one has been copied from the other, students involved will receive a zero on the assignment in question.

- Provide sufficient comments.
- Use JPanel/JFrame when appropriate.
- Submit via Canvas, include a screen shot of execution.
- Be sure to name your file correctly and to keep a backup. Remember that late assignments will be penalized at a rate of 50% per week.
- Students are encouraged to discuss this assignment, however, students are expected to turn in their own work. If assignments turned in are so similar that it is obvious one has been copied from the other, students involved will receive a zero on the assignment in question.

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