

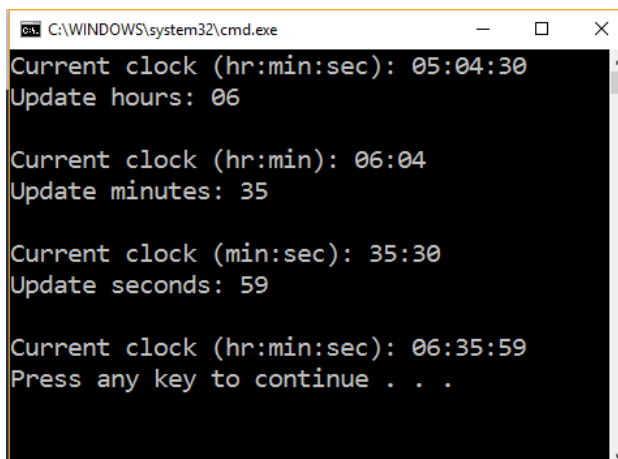
CSC 2111 Lab 06

Objectives:

1. Classes and Data Abstraction
2. User-defined classes
3. Implementation of a class in separate files

Question 1:

Chapter 10 defines **class** *clockType* to implement time in a program. The **class** includes functions named “*setTime(int hours, int minutes, int seconds)*” and “*getTime(int& hours, int& minutes, int& seconds) const*” in order to set and get clock time, respectively. Modify the class by adding six additional functions (*setHours*, *setMinutes*, *setSeconds*, *getHours*, *getMinutes*, and *getSeconds*) so that the users can set/get hours, minutes, or seconds separately. Also modify the main function to make sure your code provides the same **output** as follows:



```
C:\WINDOWS\system32\cmd.exe
Current clock (hr:min:sec): 05:04:30
Update hours: 06

Current clock (hr:min): 06:04
Update minutes: 35

Current clock (min:sec): 35:30
Update seconds: 59

Current clock (hr:min:sec): 06:35:59
Press any key to continue . . .
```

Question 2:

Design a new **class** named *memberType*. Each object of *memberType* can hold the name of a person, member ID, and number of books bought. Include member functions to perform atleast the following operations on the objects of *memberType*: create a new member, modify name, show name, modify member ID, show member ID, modify number of books bought and show number of books bought. Add the appropriate constructors. Write the definitions of the member functions of *memberType*. Make sure your code provides the same **output** as follows:

```
C:\WINDOWS\system32\cmd.exe
Member 1: Initialized using the constructor function
Name of the person: John Smith, Member ID: 100, Number of books bought: 1

Member 2: Created a new member using utility function of the class
Name of the person: Robert De, Member ID: 200, Number of books bought: 2

Modify name for member 2: Peter Sam
Modify member ID for member 2: 300
Modify number of books bought for member 2: 5

Member 2:
Updated name: Peter Sam
Updated ID: 300
Updated number of books bought: 5
Press any key to continue . . .
```

You can download the class files from blackboard.

Submission guideline:

- You MUST follow the submission guideline. Otherwise you will lose points.
- Your submission folder structure should be:
 - LastnameFirstnameLabX.zip
 - program1
 - clockType.h
 - clockTypeImp.cpp
 - MainProgram.cpp
 - program2
 - MainProgram.h
 - memberType.cpp
 - memberType.h