

## Assignment 1

**Dead line: 13-11-2024**

**Task 1:** Declare a class named Time that has following data members Hours, Minutes, and Seconds. Make Getters, Setters, Constructors, destructor and display function. Create two instances and take all data from user and show valid Time on screen. **(CLO1,CLO2)**

**Task 2:** Create a class named **CAR**. CAR class have attributes are, Car name , Car price, Car model, Car number. Make Getters, Setters, Constructors, destructor and display function. **(CLO1,CLO2)**

**Task 3:** Write a class name QuadraticEquation that has three parameters a,b,c. Implement getters, setters, constructors and calculate Quadratic formula. **(CLO1,CLO2)**  
Void calculateQuadratic(int a, int b, int c);

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

**Task 4: (CLO1,CLO2)**

Create a class called Rational that uses integer variables to represent the private data of the class—the numerator and the denominator. Provide constructors (default, parameterized) getters and setters of these members. Take input from user, after calling appropriate getters/setters display fraction on screen.

**Task 5: (CLO1,CLO2)**

Create a class called Time to include a tick member function that increments the time stored in a Time object by one second. Write a program that tests the tick member function in a loop that prints the time in standard format during each iteration of the loop to illustrate that the tick member function works correctly. Be sure to test the following cases:

- a) Incrementing into the next minute.
- b) Incrementing into the next hour.
- c) Incrementing into the next day (i.e., 11:59:59 PM to 12:00:00 AM).

## Instruction Guidelines:

- You need to submit 5 cpp files in a folder. Name of folder should be your roll number. Name of tasks should be task1, task2 etc.
- Assignment should be submitted in both forms code and handwritten.
- Handwritten assignment should be submitted in class.