**Object Oriented Programming and Design**

**Laboratory**

**Subject Code - CS 361**

**Lab 7**

Q1. Modify the Time class that you have done earlier to include a tick member function that increments the time stored in a time object by one second. The time object should always remain in a consistent state. Write a programme that checks 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 work 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 12:00:00AM)

Q2. Create a more sophisticated Rectangle class .This class stores only the Cartesian coordinates of the four corners of the rectangle. The constructor calls a set function that accepts four sets of coordinates and verifies that each of these is in the first quadrant with no single x or y-coordinates larger than 20.0. The set function also verifies that the supplied coordinates do, in fact specify a rectangle. Provide member function that calculates the length, width, perimeter and area. The length is the larger of the two dimensions. Include a predicate function square that determines whether the rectangle is a square.