COP 4331 - Fall 2015
Homework 1
Due: September 22, 2015

- **No late submissions will be accepted**
- **Please submit the homework through Webcourses using the following format: COP4331_Fall15_HW#_LastName_FirstName.pdf, where # will be 1, 2, or 3.**
- **This homework assignment is an <u>INDIVIDUAL</u> assignment, not a team effort!!!**

Problem statement:
You are working as a system analyst for a company which is a leading vehicle selling company. It sells automobiles (cars, trucks, bikes and SUV's) to interested buyers. It needs a software system for the business and you have been asked to analyze the requirements and design appropriately.

The following is the list of requirements of the system:
1. The system has two kinds of users: dealer and buyer.
2. The buyer can inquire about the list of vehicles available from the dealer.
3. The buyer is interested in obtaining the following information for each vehicle:
    a. Make
    b. Model
    c. Year
    d. Price
    e. Color
    f. Accumulated miles
4. The buyer has a budget range with minimum and maximum values and can only buy a vehicle within this budget range.
5. The dealer contains a list of vehicles owned by him.
6. The dealer provides the vehicle information to the buyer on request.
7. The dealer has a list of buyers who have previously bought a vehicle from him.
8. The buyer can buy the vehicle from the dealer by paying the amount in full, which if he does makes him eligible for a discount based on his credit rating.
9. The buyer can also purchase a vehicle on an installment basis (EMI), the interest rate which depends on the time of payment and the buyer's credit rating.
10. A customer may also want to lease a vehicle, for which all the above points apply, the only difference being the vehicle is being leased instead of bought. Disregard other minute details of the leasing process and assume it to be the same as that of the buying process.

Assignment:
You are required to submit a digital copy of the following UML diagrams (no hand-drawn diagrams.) Do not attempt to circumvent this by drawing your homework out on paper and scanning it). There are both open-source and proprietary UML tools (you can check Wikipedia for available UML tools: http://en.wikipedia.org/wiki/List_of_Unified_Modeling_Language_tools). Additionally, you are required to follow UML notations. Please submit your homework as a PDF based on the format provided above.

a) **Use Case Diagram** of the specified system
b) **Class Diagram** of the specified system