BIA810A
ASSIGNMENT#1
DUE DATE: JUNE 5th, 11:59pm

1. Download and install MySQL
   Go to: http://dev.mysql.com/downloads/mysql/
   Download and install MySQL Installer

2. Open MySQL Installer and install at least the following:
   MySQL Server
   MySQL WorkBench
   Connector/J - if you are going to use Java, otherwise the Connector for your language
   MySQL Documentation

You will mainly work in MySQL Workbench. Send me email if you are stuck, but first check google!

Description of the Problem:

A car rental company (let's call it CRC) wants to develop a relational database to monitor customers, rentals, fleet and locations.

CRC's fleet consists of cars of different types. A car is described via a unique code (VIN), a description, color, brand, model, and date of purchase. A car may belong to one (exactly one) vehicle category (compact, economy, convertible, etc.). Each category is described by a unique ID, a label and a detailed description. CRC has several locations around the globe. Each location has a unique ID, an address (street, number, city, state, country) and one or more telephone numbers. CRC should also store in this database its customers. A customer is described by a unique ID, SSN, Name (First, Last), email, mobile phone number and lives in a state and country. Customers rent a car, which they pickup from a location and return it another location (not necessarily the same.) A rental is described by a unique reservation number, it has an amount and contains the pickup date and the return date.

Deliverables (in one word document or pdf file):

1. (20%) Use the Entity-Relationship Diagram (ERD) to model entities, relationships, attributes, cardinalities, and all necessary constraints. Use any tool you like to draw the ERD.
2. (20%) Use SQL Workbench to create the tables and insert a few records into the tables to test your queries below. You will have to hand in the CREATE TABLE statements.
3. (60%) Write SQL code and test it to your data for the following queries

    a. Show the reservation number and the rental date of all rentals in 5/20/2015
    b. Show the first and the last name and the mobile phone number of those customers that have rented a car in the category that has label = 'luxury'
    c. Show the total amount of rentals per location ID (pick up)
    d. Show the total amount of rentals per car's category ID and month
    e. For each month of 2015, count how many rentals had amount greater than this month's average rental amount
    f. For each month of 2015, show the percentage change of the total amount of rentals over the total amount of rentals of the same month of 2014