COEN 280 - Database Systems
Winter 2018
Homework Assignment 2
Due: Friday, Feb 9
@11:59pm

Part 1: Map the EER diagram into Oracle RDBMS model (20 points)
Convert your EER conceptual schema into tables and then implement these tables in the Oracle database. You can change your EER design freely during you conversion since your schema might not optimal. You will get full credit for part 1 and part 2 if your query is working properly.

Note: You are required to populate your database with the given data and test data with the queries in Part2. Use the excel data files for this. The excel file has tabs in the bottom for each data section. Also, go through the queries in part 2 to make reasonable assumptions regarding the attributes unavailable in the files provided and fill them out.

IMPORTANT Notes:

▪ **The following procedure must be followed to access the Oracle database server:**

//$ is the system prompt
$ sqlplus //Use sqlplus to issue sql statements

▪ **Reduction Guidelines for Oracle RDBMS:**

- Do not use triggers.
- Use reference for foreign keys and specify what action should be taken in case of update and/or deletion of the referenced tuple/row (i.e., cascade, reject, or setdefault/null).

▪ **Reference**:

Refer to Oracle SQL reference manual for information on how to create tables, indexes, insert data, etc. (http://docs.oracle.com/cd/E11882_01/server.112/e41084.pdf).

Part 2: Queries on the database (75 points)

Write the following queries in Oracle SQL and run them on your database developed as mentioned in Part 2 of this assignment. Depend on the data, your query might not return any data but it does not means your query is wrong.

1) Count the number of businesses having business category name as "National Parks" situated in Arizona.
2) Find the users who were born in CA but never visited CA.
3) List the users who are Male and complimented at least one female friend.
4) Find all the businesses whose reviewers have at least 1 friend in their friend list. Order by number of reviews (decreasing), break ties by business ID (increasing).
5) List top 10 5-star businesses that are reviewed by users between the ages of 20 and 25.

   Top means, businesses with the most number of reviews. Order by number of reviews (decreasing), break ties by business ID (increasing). For each business, print its bid (business id), name, average number of stars, and number of reviews.
6) List top 10 most traveled yelp users who checked in to 5-star businesses.

   Most travelled yelp users are those who have checked in businesses located in more than 5 distinct states. Top means, yelp user with the highest number of checkins, break the ties by user ID.
7) List businesses where their categories have at most 1 distinct subcategory.
8) List all businesses in CA that are closed on Sunday and have touristy ambient with the highest number of reviews from users not from CA. Order by the number of reviews from non-CA authors, break ties business ID.
9) Find the businesses whose average rating was doubled from May 2015 to June 2015 and has the most no. of checkins. Average rating is the average numbers of stars from all reviews given to a particular business.
10) List all yelp users who haven't reviewed any businesses but have provided at least 2 comments on other user's reviews.

Submission Guidelines

1. Your submission of part 1 and part 2 should include one createdb.sql file, one dropdb.sql file, ten .sql files for queries described in part 2 (named q1.sql to q10.sql), and one readme.txt file.

2. **createdb.sql** file should create required types, tables, indexes if required, generate primary keys, ... , and populate all the provided data based on the skeleton data provided. There is **60 points penalty** if this file is missing since it is not possible for us to check your queries without any data.

3. The **dropdb.sql** file should drop all types and tables that are created by createdb.sql. There is **10 points penalty** if this file is missing from your submission or if it does not drop all of your database objects.

4. **q1.sql ~ q10.sql** query files should contain SQL statements for queries Q1 to Q11described in part 3 respectively. If you need to write two or more SQLs for ONE step, then they should be written after each other in ONE file.

5. Make sure to properly test created.sql, dropdb.sql and the query files (q1.sql…q10.sql) before submission. There will be **penalty** for resubmission if one the mentioned files do not execute properly.

6. The **readme.txt** file must have your name, the name of the database and tables that your createdb.sql file generates. It should also include the result of the execution of the queries. There is **10 points penalty** if this file or some of the required information is missing from your submission.

7. You must make a .zip file to include all of your files in one file (<your_name>_hw2.zip:
   Your zip file should contain **createdb.sql dropdb.sql readme.txt q1.sql q2.sql q3.sql q4.sql q5.sql q6.sql q7.sql q8.sql q9.sql q10.sql** files.

8. You need to submit the 1st and 2nd part of your assignment to Camino
9. Start working on your assignment early.