Assignment #5: Building a MYSQL Database

**Part 1: Create your MySQL database on the Courant warehouse server**

1. Your database must include a minimum of three tables.
2. You may use LOAD DATA with data files or INSERT queries to populate your database.
3. You may not use tables which you have used before this semester for another assignment.
4. For tables that you create "by hand" (as opposed to data which you have downloaded for analysis), at least two tables must have a minimum of ten records and at least one table must have a minimum of 15 or more records.
5. **NOTE**: If you use MySQL-WorkBench to generate your script, be sure to suppress ALL references to a new database called **mydb** and also be sure to correct the apostrophes as we discussed in class.

**Notes:**

1. You must cite your source. If you simply "download a database" from the web and upload it to your MySQL account, that does not "count" as original work for this assignment. This assignment is asking you to learn how to create a MySQL database of your own. You may if you wish add a minimum of two tables (e.g. controlled vocabularies) to form a database based on a single table.
2. You may "count" a controlled vocabulary as one of your tables.
3. Test data ("toy data") is fine as long as it is reasonable. (For example, the ages of children in a kindergarten class should be positive numbers and in an appropriate range but you are welcome to make up the childrens' names and ages etc..)

**Part 2: Write and run the following eight queries against your database:**

1. Two queries that each use at least one INNER JOIN.
2. Two queries that each use a LEFT JOIN.
3. Three queries that each contain a nested query (or sub-query) of any kind.
4. One query with more than one INNER JOIN.
5. Two queries of your choice with any JOIN. For this query, you may write out a query using a RIGHT JOIN in comments in your script but you do not need to run it as such a query could violate referential integrity, depending on your data.

**Optional / Extra Credit**

Write three more queries that are relevant to your data and and yield results that you find interesting. For each of these queries, write the question that you are posing in English as a comment and then write and execute the query in SQL.

If you write a Python script to curate or scrub your data, submit the original data file along with the Python script in addition to the mysqldump file which contains the final dataset.

**What to turn in:**

What To Submit: Post the following to NYU/Classes:

**Note - Be sure to compress all of your files into one .zip file for submission and include both the assignment number and your netid in every filename. Here are two examples; please follow this model: *asg5\_de123.zip* and *asg5\_de123\_mysqldump.sql*.**

1. .SQL script generated by using MYSQLDUMP.
2. A transcript of your session showing the queries that you ran above and the results.
3. A .SQL script with ONLY the queries so that the instructor and grader can run them.
4. **ADDED 11/16/2019**A screen shot of your work on i6 that shows your netid and at least one of the queries above.

**Class Resources:**

* [MySQL Class Notes](https://cs.nyu.edu/courses/fall19/CSCI-UA.0060-001/notes/dbw_readings_MySQL_fa19.html)
* [MySQL Functions and Operators](https://cs.nyu.edu/courses/fall19/CSCI-UA.0060-001/notes/dbw_readings_MySQL_functions_fa19.html)
* [MySQL Commands and Queries](https://cs.nyu.edu/courses/fall19/CSCI-UA.0060-001/notes/dbw_readings_MySQL_commands_fa19.html)
* [MySQL Data Imports using LOAD DATA](https://cs.nyu.edu/courses/fall19/CSCI-UA.0060-001/notes/dbw_readings_MySQL_loadData_fa19.html)
* [Notes on using the i6 server](https://cs.nyu.edu/courses/fall19/CSCI-UA.0060-001/notes/dbw_readings_i6_setup_fa19.html)