Assignment 8 Write Up

1. Difficulties Faced
   1. Did not initially realize that semi-colons were needed to make each line work
   2. Know how to show which tables exist within database, but still not sure how to view contacts of each table
      1. Does this have to be done in Python or is there a way to see the contents in the MySQL 5.7 Command Line Client?
   3. Not sure what we have to use the Command Line Client for and what we can use Python for
      1. Even though Part 2 of the assignment had us build the tables in the command line client, as the Python script shows, we could also just build the tables in Python. Why would we not just do that? It seems much easier than working in a command prompt.
      2. Doing it in Python seems to take a while. We’re just creating some small tables, so I’m not sure why it wasn’t fairly instantaneous.
2. What does each code do?
   1. SHOW DATABASES;
      1. Show databases lists the databases on the MySQL server, so in this case, we end up with the databases information\_schema, classwork, mysql, performance\_schema, and sys. MySQL implements databases as directories in the data directory.
   2. DROP DATABASE IF EXISTS classwork
      1. This is fairly clear. If there is a database on the MySQL server with that name, it will be dropped. We had not yet created the class database at the time, and so nothing was dropped.
   3. CREATE DATABASE classwork
      1. This creates a database with a given name. A database in MySQL is implemented as a directory containing files that correspond to tables in the database. There are no tables in the directory when it is created as this only creates a directory under the MySQL data directory and the db.opt file, and hence we next create tables within the database.
   4. USE classwork;
      1. Use allows you to select a database so that you can then create tables within it.
   5. SHOW TABLES;
      1. Now that we’ve selected our database, we can use this to see what tables are in it. Since we have not created any, there will be no tables shown. If we run this again at the end, we’ll see tables for class, enroll, faculty, and student.
   6. CREATE TABLE Student; CREATE TABLE Faculty; CREATE TABLE Class; CREATE TABLE Enroll
      1. We create a table with the given name Student here. We then use the char() options to say how much characters each entry should be able to hold up to. We use smallint to say what type of data storage we want for the credits entry. For the last two lines, If the CONSTRAINT symbol clause is given, the symbol value, if used, must be unique in the database.
      2. We do the same thing with the other tables.
      3. NO ACTION: A keyword from standard SQL. In MySQL, equivalent to RESTRICT. The MySQL Server rejects the delete or update operation for the parent table if there is a related foreign key value in the referenced table
      4. CASCADE: Delete or update the row from the parent table, and automatically delete or update the matching rows in the child table
   7. INSERT
      1. We use insert to populate the table we’ve created with actual information.