

## CS3810 Fall 2017

### Homework 2

**Due: Thursday, Sept 7, 2017**

1. Install and configure Postgres on your personal computer.
2. This first assignment will be to develop a database with information about various countries.

Create a table named Countries using the following statement:

```
CREATE TABLE Countries (  
    name VARCHAR(20),  
    latitude INT,  
    longitude INT,  
    area INT,  
    population INT,  
    gdp INT,  
    gdpYear INT  
);
```

3) Note that this statement does not include any mention of a primary key. Select a primary key that will work best for this assignment (hint: read through the rest of the assignment), and revise the SQL statement to incorporate that.

4) Up until this point, we have provided step by step instructions in order to bootstrap this assignment. Now there are certain other tasks that must be completed. For some of these, you may need to refer to online SQL documentation.

4a. Create another table, **Borders**, which is used to imply that two countries border each other. Ensure that the proper link exists between the two tables (Hint: Can an entry in the borders table exist without a link to an entry in the countries table?)

4b. Populate both tables with proper information for Germany, Netherlands, Belgium, Luxemburg, Poland, Czech Republic, Austria, France, and Switzerland.  
(For simplicity, assume that only these countries exist in our world).

4c. Use query to display all countries that border Germany.

4d. Use query to display all countries that have a population greater than 100 million.

4e. Use query to display all countries that have a population greater than 100 million AND border Germany.

Data for this assignment can be found at

<https://www.cia.gov/library/publications/the-world-factbook/>

*Use data for 2016*

### Suggestions:

Create a plain text of all your SQL statements (a script) named `HW2.sql` and import into Postgres instead of typing over and over and over.

For more examples, check out these sites

<https://soleil4716.wordpress.com/2010/09/03/saving-postgresql-query-output-to-file/>

<https://www.postgresql.org/docs/current/static/app-psql.html>

<https://www.postgresql.org/message-id/4759644A.2070107@shaw.ca>

Comment syntax can be found at the Postgres documentation 4.1.5 Comments

<https://www.postgresql.org/docs/8.0/static/sql-syntax.html#SQL-SYNTAX-COMMENTS>

**To Turn In:**

Upload to your github account the following:

- 1) The file that contains only the SQL statements for the five steps in a plain text file named `HW2.sql`
- 2) A single file that contains the integrated SQL script and output of the SQL statements, in a file named `HW2.out` with appropriate comments to identify which question, which SQL statement the answers belong to. In other words, put comments in the SQL code to identify each of the 5 queries.

For example:

```
-- 4a Create table Borders
CREATE TABLE Borders ( );
```