INST 123 – Databases for All Assignment 2 - Questions

(See ELMS for the assignment deadline)

There are two questions in this assignment. Be sure to complete both questions.

You will use the **us_counties_2010** table for this assignment. If you haven't created and populated the **us_counties_2010** table on your serveryet, use the CREATE TABLE query and the csv data file available at: https://github.com/anthonydb/practical-sql/tree/master/Chapter_04. Contact a TA or AMP, if you encounter any issues creating or populating the **us_counties_2010** table.

Q.1) (20 points) Write a query that replicates the result set below, matching all data, including row order. HINT: You may need to transform some data types to achieve the correct results.

NOTE: Focus on counties in these three states: California, Florida, and Pennsylvania

NOTE: Column name "p0030001" refers to Total Adult Population

	marrie processor refere to retail reduct operation					
County character varying (90)	State character varying (2)	Latitude numeric (10,7)	Longitude numeric (10,7)	Area (Water) bigint	Population (Adults) integer	pct_adult numeric
San Francisco County	CA	37.7272391	-123.0322294	479190317	697711	86.65
Amador County	CA	38.4435501	-120.6538563	29456575	31698	83.22
Sierra County	CA	39.5769252	-120.5219926	23299108	2688	82.96
Tuolumne County	CA	38.0214510	-119.9647084	138683578	45683	82.51
Mariposa County	CA	37.5700335	-119.9128599	36271400	15009	82.24
Plumas County	CA	39.9951699	-120.8295155	156395470	16406	82.00
Lassen County	CA	40.7210889	-120.6299314	463440721	28602	81.97
Trinity County	CA	40.6477241	-123.1144043	73407861	11266	81.72
San Luis Obispo County	CA	35.3852268	-120.4475404	820974646	218796	81.14
Nevada County	CA	39.2951907	-120.7734456	41514942	79658	80.65
Calaveras County	CA	38.1878437	-120.5551154	43810420	36635	80.38
Humboldt County	CA	40.7066731	-123.9258181	1254256396	107562	79.90
Marin County	CA	38.0518169	-122.7459738	797420433	200195	79.31
Siskiyou County	CA	41.5879861	-122.5332868	179889482	35575	79.23
Mono County	CA	37.9158363	-118.8751668	214695487	11223	79.02
Butte County	CA	39.6659588	-121.6019188	105325758	173832	79.01
Inyo County	CA	36.5619770	-117.4039269	119208057	14646	78.97
Santa Cruz County	CA	37.0124883	-122.0072050	419568865	206964	78.88
Lake County	CA	39.0948019	-122.7467569	188962335	50993	78.86
Del Norte County	CA	41.7499033	-123.9809983	578525663	22472	78.55
Alpine County	CA	38.6176096	-119.7989986	12557251	919	78.21
Modoc County	CA	41.5929185	-120.7183704	739774453	7562	78.07
Sonoma County	CA	38.5325740	-122.9451943	497530353	377407	78.00
	County character varying (90) San Francisco County Amador County Sierra County Tuolumne County Mariposa County Plumas County Lassen County Trinity County San Luis Obispo County Nevada County Humboldt County Marin County Siskiyou County Mono County Butte County Inyo County Santa Cruz County Lake County Alpine County Alpine County Modoc County Modoc County Modoc County	County character varying (90) San Francisco County CA Amador County CA Sierra County CA Tuolumne County CA Mariposa County CA Plumas County CA Trinity County CA San Luis Obispo County CA Calaveras County CA Humboldt County CA Siskiyou County CA Marin County CA Butte County CA Butte County CA Butte County CA Santa Cruz County CA Alpine County CA Mono County CA Calaveras County CA Calaveras County CA Calaveras County CA Calaveras County CA CA CA CA CA CA CA CA CA CA	County character varying (90) State character varying (2) Latitude numeric (10,7) San Francisco County CA 37.7272391 Amador County CA 38.4435501 Sierra County CA 39.5769252 Tuolumne County CA 38.0214510 Mariposa County CA 37.5700335 Plumas County CA 39.9951699 Lassen County CA 40.7210889 Trinity County CA 35.3852268 Nevada County CA 39.2951907 Calaveras County CA 38.1878437 Humboldt County CA 38.0518169 Siskiyou County CA 38.0518169 Siskiyou County CA 37.9158363 Butte County CA 39.6659588 Inyo County CA 37.0124883 Lake County CA 39.0948019 Del Norte County CA 41.7499033 Alpine County CA 41.7499033 Alpine County CA 41.75929185	County character varying (90) State character varying (2) Latitude numeric (10,7) Longitude numeric (10,7) San Francisco County CA 37.7272391 -123.0322294 Amador County CA 38.4435501 -120.6538563 Sierra County CA 39.5769252 -120.5219926 Tuolumne County CA 38.0214510 -119.9647084 Mariposa County CA 37.5700335 -119.9128599 Plumas County CA 39.9951699 -120.8295155 Lassen County CA 40.7210889 -120.6299314 Trinity County CA 35.3852268 -120.4475404 Nevada County CA 35.3852268 -120.4475404 Nevada County CA 39.2951907 -120.7734456 Calaveras County CA 38.1878437 -120.7734456 Calaveras County CA 38.0518169 -122.7457938 Siskiyou County CA 38.0518169 -122.7457938 Siskiyou County CA 37.9158363 -118.8751668 Butte County </td <td>County character varying (90) State character varying (2) Latitude numeric (10,7) Longitude numeric (10,7) Area (Water) bigint San Francisco County CA 37.7272391 -123.0322294 479190317 Amador County CA 38.4435501 -120.6538563 29456575 Sierra County CA 39.5769252 -120.5219926 23299108 Tuolumne County CA 38.0214510 -119.9647084 138683578 Mariposa County CA 37.5700335 -119.9128599 36271400 Plumas County CA 39.9951699 -120.8295155 156395470 Lassen County CA 40.7210889 -120.6299314 463440721 Trinity County CA 40.6477241 -123.1144043 73407861 San Luis Obispo County CA 35.3852268 -120.4475404 820974646 Nevada County CA 39.2951907 -120.7734456 41514942 Calaveras County CA 38.1878437 -122.5551154 43810420 Humboldt County CA 38.0518169</td> <td>County character varying (90) State character varying (2) Latitude numeric (10.7) Longitude numeric (10.7) Area (Water) bigint Population (Adults) integer San Francisco County CA 37.7272391 -123.0322294 479190317 697711 Amador County CA 38.4435501 -120.6519926 29356575 31698 Sierra County CA 39.5769252 -120.5219926 29329108 2688 Toolumne County CA 38.0214510 -119.9647084 138683578 45683 Mariposa County CA 37.5700335 -119.9128599 36271400 15009 Plumas County CA 39.9951699 -120.8295155 156395470 16406 Lassen County CA 40.7210889 -120.6299314 463440721 28602 Trinity County CA 35.3852268 -120.4475404 820974646 218796 San Luis Obispo County CA 38.187847 -120.7734456 41514942 79658 Calaveras County CA 38.187847 -122.7475045 43810420</td>	County character varying (90) State character varying (2) Latitude numeric (10,7) Longitude numeric (10,7) Area (Water) bigint San Francisco County CA 37.7272391 -123.0322294 479190317 Amador County CA 38.4435501 -120.6538563 29456575 Sierra County CA 39.5769252 -120.5219926 23299108 Tuolumne County CA 38.0214510 -119.9647084 138683578 Mariposa County CA 37.5700335 -119.9128599 36271400 Plumas County CA 39.9951699 -120.8295155 156395470 Lassen County CA 40.7210889 -120.6299314 463440721 Trinity County CA 40.6477241 -123.1144043 73407861 San Luis Obispo County CA 35.3852268 -120.4475404 820974646 Nevada County CA 39.2951907 -120.7734456 41514942 Calaveras County CA 38.1878437 -122.5551154 43810420 Humboldt County CA 38.0518169	County character varying (90) State character varying (2) Latitude numeric (10.7) Longitude numeric (10.7) Area (Water) bigint Population (Adults) integer San Francisco County CA 37.7272391 -123.0322294 479190317 697711 Amador County CA 38.4435501 -120.6519926 29356575 31698 Sierra County CA 39.5769252 -120.5219926 29329108 2688 Toolumne County CA 38.0214510 -119.9647084 138683578 45683 Mariposa County CA 37.5700335 -119.9128599 36271400 15009 Plumas County CA 39.9951699 -120.8295155 156395470 16406 Lassen County CA 40.7210889 -120.6299314 463440721 28602 Trinity County CA 35.3852268 -120.4475404 820974646 218796 San Luis Obispo County CA 38.187847 -120.7734456 41514942 79658 Calaveras County CA 38.187847 -122.7475045 43810420

There are 192 result rows returned.

- Q.2) (30 points) The solution to this question consists of 3 steps. <u>Paste in your submission file all</u> three queries you use for this question, as well as the csv file you create in Step 1.
 - 1. Export data from the us_counties_2010 table for DC, Maryland, and Virginia to create a CSV file named **dmv_states.csv**. The columns to be exported are as follows. <u>Paste the COPY query into the submission file (yourlastname A2 queries.txt)</u>, and include the **dmv states.csv** file in your submission.
 - a. geo_name
 - b. state_us_abbreviation
 - c. internal_point_lat
 - d. internal_point_lon
 - e. housing unit count 100 percent as numeric (12, 2)
 - f. population_count_100_percent as numeric(12,2)
 - 2. Create the *dmv_states* table in PgAdmin with the following columns and data types. <u>Paste the CREATE query into the submission file (*yourlastname A2 queries.txt*).</u>
 - a. county varchar (90)
 - b. state varchar(2)
 - c. latitude numeric (10,7)
 - d. longitude numeric (10,7)
 - e. household numeric(12,2)
 - f. population numeric (12,2)
 - 3. Import the data from the *dmv_states.csv* file you created in Step 1, into the *dmv_states* table you created in Step 2. Paste the COPY query into the submission file (yourlastname A2 queries.txt).

The *dmv_states* table should look like this when you have successfully completed the 3 steps.

4	county character varying (90)	state character varying (2)	latitude numeric (10,7)	longitude numeric (10,7)	household numeric (12,2)	population numeric (12,2)
1	District of Columbia	DC	38.9041485	-77.0170942	296719.00	601723.00
2	Allegany County	MD	39.6123087	-78.7031084	33311.00	75087.00
3	Anne Arundel County	MD	38.9933743	-76.5605111	212562.00	537656.00
4	Baltimore County	MD	39.4431666	-76.6165693	335622.00	805029.00
5	Calvert County	MD	38.5213575	-76.5258639	33780.00	88737.00
6	Caroline County	MD	38.8715312	-75.8316311	13482.00	33066.00
7	Carroll County	MD	39.5631892	-77.0155121	62406.00	167134.00
8	Cecil County	MD	39.5623524	-75.9415843	41103.00	101108.00
9	Charles County	MD	38.4728532	-77.0154272	54963.00	146551.00
10	Dorchester County	MD	38.4291957	-76.0474333	16554.00	32618.00
11	Frederick County	MD	39.4704273	-77.3976265	90136.00	233385.00
12	Garrett County	MD	39.5298710	-79.2694163	18854.00	30097.00
13	Harford County	MD	39.5374292	-76.2997894	95554.00	244826.00
14	Howard County	MD	39.2522639	-76.9244057	109282.00	287085.00
15	Kent County	MD	39.2391765	-76.1242003	10549.00	20197.00
16	Montgomery County	MD	39.1373815	-77.2030633	375905.00	971777.00
17	Prince George's County	MD	38.8258796	-76.8472724	328182.00	863420.00
18	Queen Anne's County	MD	39.0406929	-76.0824053	20140.00	47798.00
19	St. Mary's County	MD	38.2226660	-76.5342705	41282.00	105151.00
20	Somerset County	MD	38.0744501	-75.8533228	11130.00	26470.00
21	Talbot County	MD	38.7494273	-76.1791304	19577.00	37782.00
22	Washington County	MD	39.6036207	-77.8146709	60814.00	147430.00
23	Wicomico County	MD	38.3673888	-75.6322064	41192.00	98733.00
24	Worcester County	MD	38.2221332	-75.3099315	55749.00	51454.00

There should be 159 rows in the dmv_states table.