CMPS 165 Spring 2018

Programming Assignment 6
GeoMapping a Country
with Population Density Map or other Data Variables
(6 points for basic assignment + 4 points for details)
Due Date: May 14, Monday, 11:59pm
No late submission
Demo to Instructor

Your first task is to extract a GeoJson file of a country using the tutorial presented in class at least at level 1 preferably at level 2.

Your second task is to search the internet to find some data related to subregions of Level 1 (or Level 2) of the country. Typically, population is the simplest data to find. In addition, if you can find the data for the area of the region, then you can compute the population density as follows: divide population by the area. My first preference is to attempt to find population density data for latest years (something around 2015 or later would be ideal, but 2010 or later would also be acceptable). My second preference is to use population data (only if you cannot find the area of the subregions). My third preference is to find any data for the subregions (make sure you understand the units of the data and the year for which the data is available).

Your third task is to visualize the country data (and host it on github) with subregions mapped to different colors based on population density data or population data or the data that you have found. Be sure to provide a legend and a color scheme that depicts the variations well. If you are using population density data, then your visualization will be similar to the CA population density visualization created by Mike Bostock.

Proposing a Country
Every student must choose a different country[1]. Propose the name of the country by filling out a Google form:
https://goo.gl/forms/glpOsos5AGZ8rs4W2

The google form is set to **accept submissions using your ucsc email**. You can submit once, and make modifications to your submissions afterwards.

Before submitting the form, make sure that no one else has already chosen that country by viewing (but not editing) the submissions by all students at the following Google spreadsheet:
https://docs.google.com/spreadsheets/d/14Id8xJPjiwBx5LUYfPDgz3oRjtcjPIYqWmpI0SfuUy8/edit?ts=5ae575dd - gid=652721382

Your proposal is automatically approved so long as you are the first person to propose the name of that country.

Since you may not know whether you can or cannot find appropriate data for the country you have chosen, I recommend that you follow a two-step process: In the first step, you

[1] Except USA, China, or Kyrgyzstan (because these have already been done by previous students and readily available)

fill out the Google form by proposing a country name without specifying the variable that you will visualize. This way, you will stake a claim to that country. Once you have identified the variable name, revisit the Google form and add the name of the variable.

In addition, please follow the following steps
1. Host visualization on github.
2. Add a Bold Title at the top something like, “Brazil Population Density, 2017”.
3. Add your name and affiliation with the class at the bottom as follows:
Github Link (clickable)
Weblink(s) for data source(s) with appropriate titles for the weblinks
Your Name
Instructor: Suresh Lodha
CMPS 165: Data programming for Visualization
Spring 2018

Submission Requirements
Submit the following on canvas:
1. countryname.json (for example, Brazil.json)
2. datafile.csv (for example PopulationDensity.csv)
3. Code (html, css, and/or javascript file; for example, BrazilPopDensity.html
3. Any intermediate data files generated
4. A clickable weblink for visualization

This assignment will be graded by the instructor. Once you have completed the assignment, please demo it to the instructor during his office hours in E2-361.

Details (4 points): choose only one of the two following options
1. Create level 2 GeoJson files, find associated data sets, and visualize this data.

2. Create level 1 GeoJson files, and find at least two different types of data sets (such as population, literacy rate) and visualize them where the user can toggle between the two variables. Be sure to provide appropriate legends, units, and the year. (On the proposal form, it suffices to mention only one variable).