**Econ 270**

**Lab 9: Maptiles**

**To submit on BBLearn:**

**A dofile** with all the commands that you ran.  
**A word document/pdf** with answers to the questions.   
Please include comments in your code whenever possible to show what you are doing.  
 The name of the file should be your Group Number followed by the class and lab number.  
 **Ex: ‘Group\_1\_ECON\_270\_Lab\_1.do’**

**Group Number: \_\_\_\_\_\_\_**

**Group Members:**

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**Questions**

1. Use the following code to install maptile

ssc install maptile  
ssc install spmap

1. Run the help command on both maptile and spmap and read the “Description” section to get a detailed overview on both commands.
2. Run the code: maptile\_install using <http://files.michaelstepner.com/geo_state.zip>

This is to install a geography template for U.S. States.

1. Load in the inbuilt state-level 1980 U.S. Census data by running the code: sysuse census
2. One important thing to keep in mind when working with maptile is that the geographic ID in the dataset must be compatible with the template you chose. To learn about the template requirements and options run the code: maptile\_geohelp state
3. Take a look at the “Geographic ID variables” section. Browse your data and see if your existing variable names meet the requirements. If not, rename the appropriate variables as needed. (Hint: You have to rename two variables)

Let’s now move on to plotting some maps.

1. Looking at the variable descriptions, what does the variable poplt5 represent?  
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2. Generate a variable that takes **poplt5** as a percentage of the entire population. (It has to be a percentage of 100 and not a value between 0 and 1)
3. Now run the code: maptile \*variable you created in 8\*, geo(state)  
   **Insert a screenshot of the map you get.**  
   How many states had the same color? Is there an equal number of states for each color?  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Taking a look at the bin color distribution code you get, what is the largest range in a bin?  
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Equally-spaced colors are informative about order but uninformative about dispersion.

Therefore, let’s take a look at the “proportionally-spaced colors” method where bins containing similar values will have similar colors.  
The way Stata does this:

* Compute the median value in each bin
* Place the lowest bin at the left, highest at the right
* Color the middle bins proportionally to the distance between them

1. Run the code: maptile \*variable you created in 8\*, geo(state) propcolor  
   **Insert a screenshot of the map you get.**  
   How many states now have the highest **poplt5** percentage?   
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Run the code: maptile \*variable you created in 8\*, geo(state) revcolor  
   **Insert a screenshot of the map you get.**   
   What did the revcolor command do?  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. In Stata the legend command is used to add titles.   
   Run the code: maptile \*variable you created in 8\*, geo(state) legd(0) twopt(legend(title("Percent Urban" "Population")))  
   Try running the code the same way but playing around with “Percent” “Urban” “Population” vs. “Percent Urban Population” to understand the purpose of the quotation marks.

Let’s now explore subsets of regions.

1. Create a map of the median age in each state. (Hint: Use the same format as 9.)  
   **Insert a screenshot of the map you get.**  
   Which general region has the highest median age (South, East, Northeast etc.)?   
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2. Let’s focus on the Northeast region. Browse your data and find the value of Northeast (NE) in the region variable.

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1. Run the code: maptile medage if region==\*number you found in 15\*, geo(state)  
   **Insert a screenshot of the map you get.**

Since only the Northeastern data was used to compute the quantiles, all the observations outside the Northeast were treated as if they were missing.

1. Run the code: maptile medage, geo(state) mapif(region==\*number you found in 15\*)  
   **Insert a screenshot of the map you get.**  
   Only the Northeast is shown on the map, but here, all observations were used to compute the quantiles.
2. To generate a map of only Northeastern data, we need to combine an if statement with mapif(). Combine the code in 16 And 17 to do this.   
   **Insert a screenshot of the map you get.**  
   What is the code you used?  
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3. Save and submit your dofile along with a word doc/pdf with answers to the questions.