

CDS 301/501 - Homework 6

Due Date

4:30pm, Monday March 30th, 2020

Problem 1

Like homework 5, in this homework you will be free to choose your own problem(s) to work on. I will make a few suggestions below - but you are free to choose what you work on. Unlike homework 5, this need not necessarily be Python focused - you can choose the tools you want to use, but, I do suggest you use this week's homework to advance your team project in some way.

Turn in a short report (.pdf) describing what you did as well as your code. Turn in any visualizations resulting from your efforts - just turn in the visualizations as standalone images - there is no need for commentary (unless you want). If you use datasets outside of the ones discussed in class, please put a link to that data in your short report (or just turn in the data as well if its small).

Suggestions...

1. Using the methods discussed in this week's notebook, apply them to your project if your project has (or could have) a geographic component. If you choose this option - you may work in project teams, but for ease of grading - every student that worked on the assignment should submit the assignment.
2. Combine the airport network graph we covered in the lecture prior to spring break with a map visualization as covered this week. You may want to look at this link for a reference if you choose this option:
<https://ipython-books.github.io/142-drawing-flight-routes-with-networkx/>.
3. Use one of the additional data sources from this week's notebook (e.g. populated places dataset) in some combination with either your own data, or data from the lecture and build a visualization.
4. Find some data online in .kml or .shp formats (or other geographically related format) and design a visualization using them - possibly combining them with data from class or your project.

5. Python is a good language for cleaning and morphing data. Consider what will be required for your project regarding transforming your data into a convenient form, and write code to do that (or begin to do that).
6. (No coding) Research your sources for your project more fully - list them, build a formal bibliography for the sources. Read and briefly summarize one or more of the source papers. You may work with members of your project team on this, but every student that worked on it together, should submit the assignment.