Before run the program, make sure all data files needed are in the same folder with source code also should have install the bokeh lib and shapefile library

(use pip install bokeh to install)

1.in terminal, cd to the target directory where all the files are stored.

2.type: python mapModule.py 311\_complaint data file zip\_borough file shapefile

3.following the prompt message.

Module overview:

The mapModule of this project is to use map plotting techniques to creat map visualizations that help understand 311 complaints data for NYC. Generally, this part includes loading data, taking in users’ input and finally creating visualizations with bokeh to do spatial data analysis.

Data:

* 311 data
* Zip shape files from US Census Bureau

data link : https://www.census.gov/cgi-bin/geo/shapefiles2013/main (select ZIP Code Tabulation Areas from the dropdown menu). (or just download from our drop box directly???)

* zip code csv

Zip shapefile contains boundaries information for the entire US territory. In order to restrict it only NYC, use the zip code file available in http://vgc.poly.edu/projects/gx5003fall2014/week9/lab/data/zip\_borough.csv.

Main function:

Plot top agency in each NYC zip code

This part is to create a choropleth map for NYC in which the shape color for each zip code representsits top agency in number of complaints. The map includes legends (color for each agency) and support hover: when the mouse is over a zip code, the tooltip shows the zip code, the top agency name and the number of complaints for that agency.

Comparing tow agencies

This function will create an analogous map for NYC to compare two agencies in terms of number of complaints for each zip code. Given two agency names as parameters, the function will compute their number of complaints per zip code, and plot a map to show that ratio.

Draw a circle to represent complaints number for each Zip code

This part is to draw a circle for each zip code on the map. The size of the circle is proportional to the number in the centroid of the zip code area.