

## Final Project Documentation

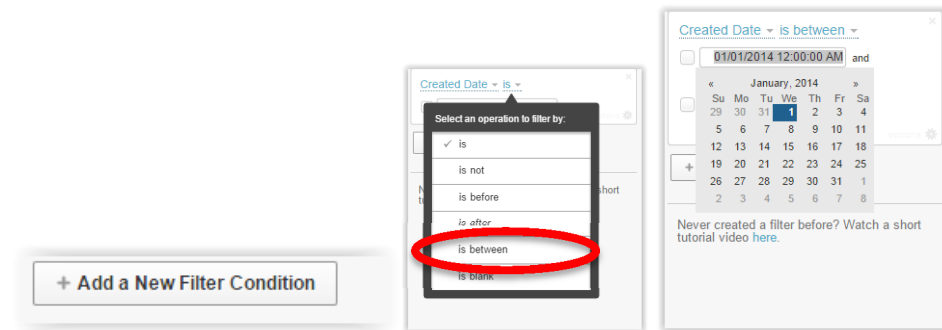
All three parts of the program use data from NYC OpenData.

### Data

<https://nycopendata.socrata.com/Social-Services/311-Service-Requests-from-2010-to-Present/erm2-nwe9?>

### Filter

Add a New Filter Condition → Created Date is between



01/01/2014 12:00:00 AM and 12/31/2014 11:59:59 PM

A screenshot of the filter configuration interface. The 'Filter' tab is selected. Below the 'Filter' tab, there is a section for 'Unique Key' with a dropdown set to 'is'. Below that, there is a section for 'Created Date' with a dropdown set to 'is between'. The date range is set to '01/01/2014 12:00:00 AM' and '12/31/2014 11:59:59 PM'. There is a button '+ Add a New Filter Condition' at the bottom. At the very bottom, there is a link to a tutorial video.

## Export as CSV file

https://nycopendata.socrata.com/Social-Services/311-Service-Requests-from-2010-to-Present/erm2-nwe9?#close\_login

NYC OpenData 1200+ Datasets Available

Unsaved View Save As... Revert

Based on 311 Service Requests from 2010 to Present. This information is automatically updated daily.

Manage More Views Filter View Report 100% Export Import About

Unique Key	Created Date	Closed Date	Agency	Agency Name
1 29615143	01/01/2015 12:00:00 AM		DCHMH	Department of Health and Mental Hygiene
2 29613948	01/01/2015 12:00:00 AM		DCHMH	Department of Health and Mental Hygiene
3 29618111	01/01/2015 12:00:00 AM		DCHMH	Department of Health and Mental Hygiene
4 29613954	01/01/2015 12:00:00 AM		DCHMH	Department of Health and Mental Hygiene
5 29618260	01/01/2015 12:00:00 AM		DCHMH	Department of Health and Mental Hygiene
6 29614432	01/01/2015 12:00:00 AM		DCHMH	Department of Health and Mental Hygiene
7 29618570	01/01/2015 12:00:00 AM	01/04/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
8 29618567	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
9 29618531	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
10 29618496	01/01/2015 12:00:00 AM	01/02/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
11 29618492	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
12 29618486	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
13 29618482	01/01/2015 12:00:00 AM	01/03/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
14 29618475	01/01/2015 12:00:00 AM	01/03/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
15 29618477	01/01/2015 12:00:00 AM	01/02/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
16 29618469	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
17 29618451	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
18 29618404	01/01/2015 12:00:00 AM	01/05/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
19 29618397	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
20 29618391	01/01/2015 12:00:00 AM	01/02/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
21 29618385	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
22 29618362	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
23 29618355	01/01/2015 12:00:00 AM	01/03/2015 12:00:00 AM	HPD	Department of Housing Preservation and Development
24 29618347	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development
25 29618334	01/01/2015 12:00:00 AM		HPD	Department of Housing Preservation and Development

Export

- SODA API
- OData
- Print
- Download

Download a copy of this dataset in a static format

Download As

- CSV
- CSV for Excel
- JSON
- PDF
- RDF
- RSS
- XLS
- XLSX
- XML

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## Shapefile

<https://data.cityofnewyork.us/Business/Zip-Code-Boundaries/i8iw-xf4u>

https://data.cityofnewyork.us/Business/Zip-Code-Boundaries/i8iw-xf4u

NYC OpenData 1200+ Datasets Available

Zip Code Boundaries

Boundaries for NYC zip codes

This data extraction tool or application is available via the link to the right

External Link

ZIP\_CODE\_040114.zip (application/zip 1.44 MB)

Description

Boundaries for NYC zip codes

Activity

Community Rating

5 stars

Raters

0

Visits

769

Downloads

490

Comments

0

Contributors

0

Meta

Category

Business

Permissions

Public

Tags

business, boundaries, data, nyc, open, public, shapefile, zip

You will need to unzip the download and extract the files. Keep all extracted files.

### Part 1: Bar Chart

This program plots a bar chart for the top k agencies in terms of complaints. It should be executed as:

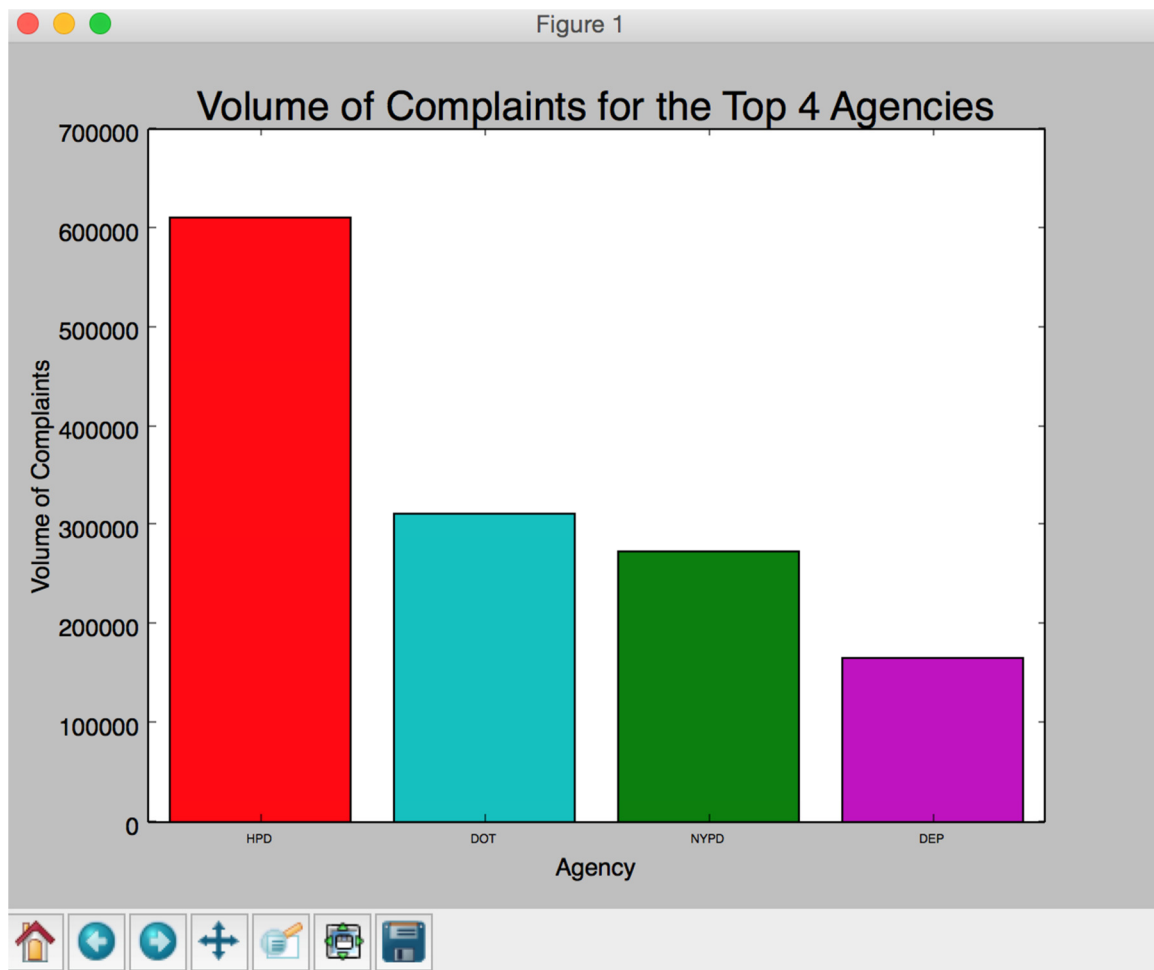
```
python bar_chart.py [complaints CSV] [k]
```

where *[complaints CSV]* should be replaced by the name of the CSV file with 311 data and *[k]* is replaced by the number of agencies the user would like to show.

Example:

```
python bar_chart.py NYC311.csv 4
```

This will show a bar chart for the top 4 agencies.



## Part 2: NYC Agency with the Greatest Number of Complaints by Zip

This program creates a choropleth map for NYC in which the shape color for each zip code represents the agency with the greatest number of complaints. The map supports the pan tool, the wheel zoom tool, the box zoom tool, and the hover tool. It should be executed as:

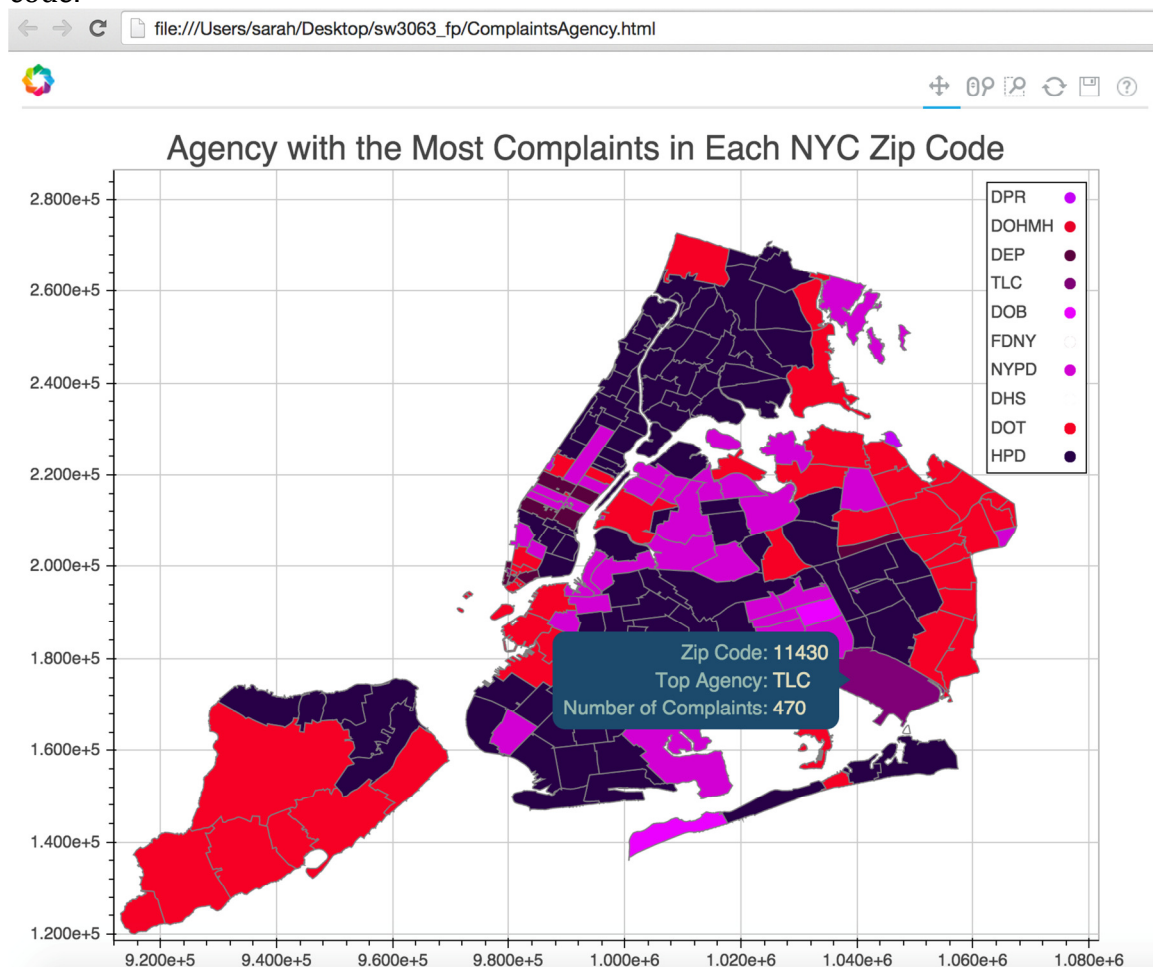
```
python agency.py [complaints CSV] [shapefile]
```

where *[complaints CSV]* should be replaced by the name of the CSV file with 311 data and *[shapefile]* is replaced with the shape file for zip codes in NYC.

Example:

```
python agency.py NYC311.csv ZIP_CODE_040114.shp
```

This will show a choropleth map for the agency with the most complaints in each zip code.



### Part 3: Comparing Two Agencies

This program compares two agencies in terms of number of complaints for each zip code. The map supports the pan tool, the wheel zoom tool, the box zoom tool, and the hover tool. It should be executed as:

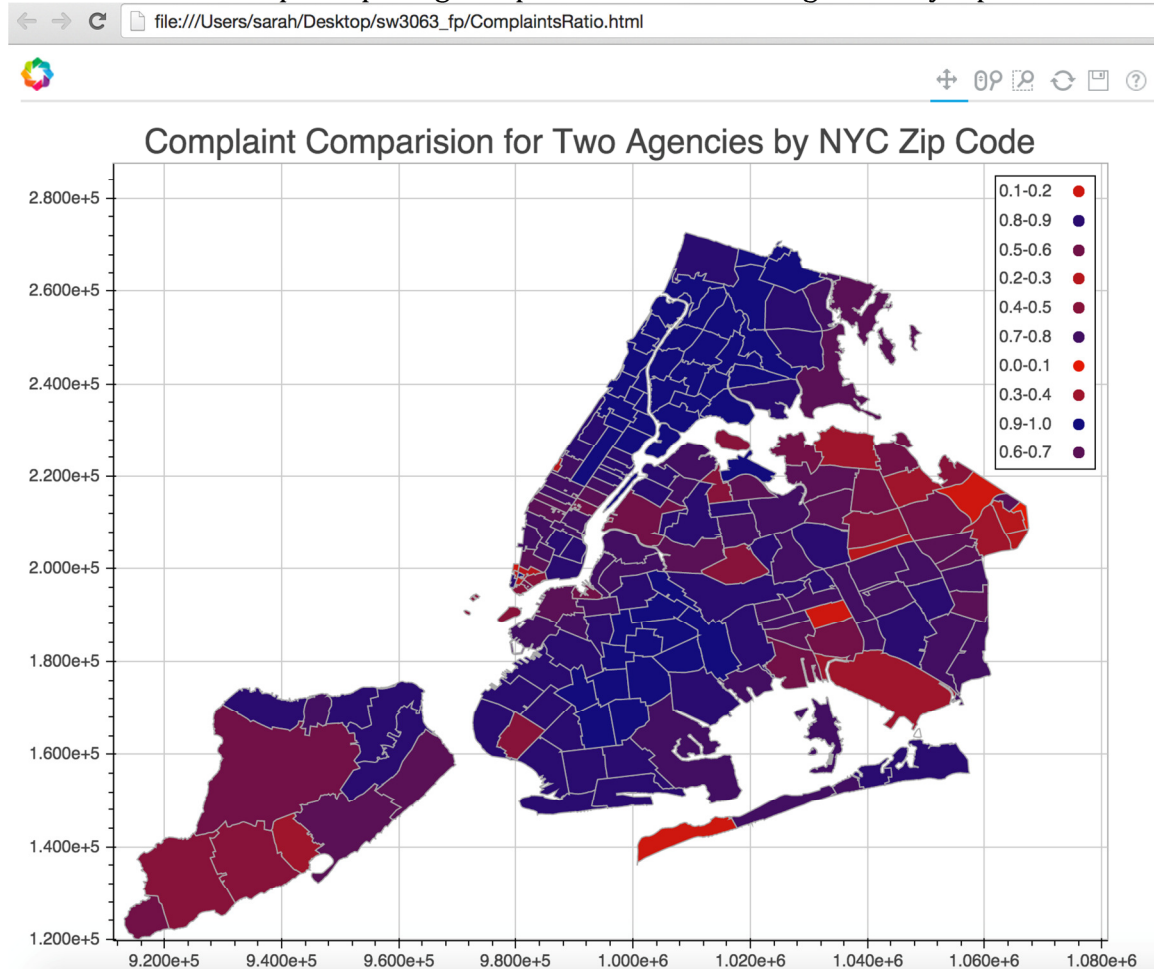
```
python ComplaintsCompare.py [complaints CSV] [shapefile] [agency1] [agency2]
```

where *[complaints CSV]* should be replaced by the name of the CSV file with 311 data, *[shapefile]* is replaced with the shape file for zip codes in NYC, *[agency1]* and *[agency2]* are the abbreviations for the agencies the user would like to compare.

Example:

```
python ComplaintsCompare.py NYC311.csv ZIP_CODE_040114.shp HPD DOB
```

This will show a map comparing complaints for two NYC agencies by zip code.



## References

<http://bokeh.pydata.org/>

<http://bokeh.pydata.org/docs/gallery/texas.html>

<http://bokeh.pydata.org/tutorial/advanced.html>

<http://colorbrewer2.com>

<https://code.google.com/p/pyshp/>