<Data Collection nearby\_search.py>

* Packages: requests, pandas, numpy, ﻿urllib.parse(urlencode).
* <function: search\_nearby>
  + Input: location string("latitude,longitude"), search radius, category of places, how many results.
  + Description: Construct the request url using inputs. Get the JSON response. If the response's status is "ZERO\_RESULTS", meaning no subway/toursit attractions nearby, set the corresponding item in list to 0, otherwise 1.
  + Output: A list recording whether there is subway/tourist attractions nearby for each listing.
* <main>
  + Read from the listings csv file.
  + Loop through each location by (latitude,longitude) and use <search\_nearby> to find nearby subway/tourist attractions nearby.
  + Add the nearby subway/tourist attractions information back to csv file.

<Nearby nearby\_analysis.py>

* Packages: pandas, seaborn, ﻿matplotlib.pyplot(plt).
* <main>
  + Read from the listings csv file of rating, subway and tourist attractions data.
  + Plot box plot of rating~subway and rating~tourist attraction.

<Nearby hotmap\_plot.py>

* Packages: ﻿geopandas, ﻿shapely.geometry (point, polygon), ﻿mapclassify.
* <main>
  + Read from the listings csv file and clean data that’s with NAN rating.
  + Read from NYC borough shape file.
  + Set coordinate system.
  + Combine latitude and longitude into points.
  + ﻿Create figure and axes, assign to subplot
  + Geoplot with categorical/quantiles.