THE BATTLE OF NEIGHBOURHOOD
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REPORT

INTRODUCTION

New York (NY), is the most densely populated city in the United States. As per the 2018 estimates, the population of 8,398,748 distributed over a land area of about 302.6 square miles. New York City consists of five boroughs; these boroughs are the separate county of the State of New York. The five boroughs are Brooklyn, Queens, Manhattan, Bronx, and Staten Island – were consolidated into a single city in 1898. New York is also known for its diversity in terms of the immigrant population from different countries. There are over 800 languages spoken in New York City. For this reason, New York is often recognized as the world's most linguistically diverse city.

According to the Census Bureau's American Community Survey, 51 percent of the population in New York speaks only English. The remaining 49 percent speak other languages, although there are areas in the outer boroughs in which up to 25% of people speak English as an alternate language, and have limited or no English language fluency. English is least spoken in neighborhoods such as Flushing, Sunset Park, and Corona.

It is also known for its diverse culture amongst those there is one which is called food culture. There are many restaurants in New York City, which belongs to the different cuisines like Chinese, Indian, French, Mexican, Korean, etc.

In the part of this project, I will visualize and analyze all major parts of New York City which have Korean restaurants for recommendation to open Korean restaurant. Also to target Korean and non Korean customer as this place has advantage of diversity.

Data

The following data :

• New York City data contains the list of Boroughs, Neighborhoods along with their latitude and longitude.

□ *Data source: https://cocl.us/new_york_dataset*

□ *Description: This dataset has all required information. I will use this dataset to explore various neighborhoods of New York City.*

• Korean restaurants in each neighborhood of New York City.

□ *Data source: Foursquare API*

□ *Description: with the help of API, I will acquire the information of all the venues in each neighborhood. After this step, I will extract information about only Korean restaurants.*

• Geo Space data

□ *Data source: https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm*

□ *Description: The geospace data will help to get information about the New York Borough boundaries to visualize choropleth map.*

Methodology

Analysis (Tools)

To Analysis the data I will use some built-in and non built- in fuctions:

• *pyforest to import all data science libraries for handling data.*

• *Request module to use Foursquare API.*

• *Geopy to get co-ordinates of the City of New York.*

Approach to find the Result:

- ***Collect the new York city data from https://cocl.us/new_york_dataset***
- ***Using Foursquare API to find all venues for each neighborhood.***
- ***Extract information about all venues that are Korean Restaurants.***
- ***Find out Tips, rating, and like count for each Korean Restaurants with the help of Foursquare API.***
- ***Use rating for each restaurant to sort that data.***
- ***Visualize the Ranking of neighborhoods by using folium library(python)***

Questions that can be asked with this datasets

- ***First I go with, which areas have potential Korean Restaurant Market?***
- ***Then list out all those areas, which are lack of Korean Restaurant?***
- ***What is the best location in New York City for Korean Cuisine?***
- ***Which is the best place if I preferred Korean Cuisine?***

[4]:
```
pip install pyforest # to import all libraries.
```

```
Collecting pyforest
  Downloading https://files.pythonhosted.org/packages/ca/7a/2280448ba42026
04eb3f9e23d9a4fd0ca1473d31aca0a90fdb5f31dd902c/pyforest-0.1.1.tar.gz (3.4MB)
     || 3.4MB 2.2MB/s eta 0:00:01
Building wheels for collected packages: pyforest
  Building wheel for pyforest (setup.py) ... done
  Stored in directory: /home/jupyterlab/.cache/pip/wheels/77/f9/78/5150067
8d6ce472b574216a40cba6c81d1766ee7cc838cce3c
Successfully built pyforest
Installing collected packages: pyforest
Successfully installed pyforest-0.1.1
Note: you may need to restart the kernel to use updated packages.
```

[5]:
```
from pyforest import*
!conda install -c conda-forge geopy --yes # uncomment this line if you haven't
 ↪completed the Foursquare API lab
from geopy.geocoders import Nominatim # convert an address into latitude and
 ↪longitude values
from pandas.io.json import json_normalize # tranform JSON file into a pandas
 ↪dataframe
# import k-means from clustering stage
from sklearn.cluster import KMeans

!conda install -c conda-forge folium=0.5.0 --yes # uncomment this line if you
 ↪haven't completed the Foursquare API lab
import folium # map rendering library

print('Libraries imported.')
```

```
# All requested packages already
installed. Libraries imported.
```

To get the geocodes with define function i.e latitude and longitude of a given location using geopy.

[8]:
```
def geo_location(address):
    # get geo location of address
    geolocator = Nominatim(user_agent="ny_explorer")
    location = geolocator.geocode(address)
    latitude = location.latitude
    longitude = location.longitude
    return latitude,longitude
```

I define a function to interact with Four Square API and get top 20 venues within a radius of 1000 Meters for a given latitude and longitude.

The function below will return with venue id , venue name and category.

[9]:
```
def get_venues(lat,lng):

    #set variables
    radius=1000
    LIMIT=20
    CLIENT_ID ='ND1RRO1PE4PKV5PR24KGRU0OXIRLZIFTMCVHUJL1DC3ZUIPO' # your␣
↔Foursquare ID
    CLIENT_SECRET ='L2HTSUD1FV3I1TVJOGHDJRXKOKODHOMZHKP42KTVPPWQ54D2' # your␣
↔Foursquare Secret
    VERSION = '20180605' # Foursquare API version
```

```
    #url to fetch data from foursquare api
    url = 'https://api.foursquare.com/v2/venues/explore?
↪&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'.format(
                CLIENT_ID,
                CLIENT_SECRET,
                VERSION,
                lat,
                lng,
                radius,
                LIMIT)

    # get all the data
    results = requests.get(url).json()
    venue_data=results["response"]['groups'][0]['items']
    venue_details=[]
    for row in venue_data:
        try:
            venue_id=row['venue']['id']
            venue_name=row['venue']['name']
            venue_category=row['venue']['categories'][0]['name']
            venue_details.append([venue_id,venue_name,venue_category])
        except KeyError:
            pass

    column_names=['ID','Name','Category']
    df = pd.DataFrame(venue_details,columns=column_names)
    return df
```

In this step i will define a function to get venue details like rating ,likes,names, tip counts for a given venue id. which will be used for ranking.

[10]:
```
def get_venue_details(venue_id):

    CLIENT_ID = 'ND1RRO1PE4PKV5PR24KGRU0OXIRLZIFTMCVHUJL1DC3ZUIPO'# your␣
↪Foursquare ID
    CLIENT_SECRET = 'L2HTSUD1FV3I1TVJOGHDJRXKOKODHOMZHKP42KTVPPWQ54D2' # your␣
↪Foursquare Secret
    VERSION = '20180605' # Foursquare API version

    #url to fetch data from foursquare api
    url = 'https://api.foursquare.com/v2/venues/{}?
↪&client_id={}&client_secret={}&v={}'.format(
                venue_id,
                CLIENT_ID,
                CLIENT_SECRET,
                VERSION)
```

```
    # get all the data
    results = requests.get(url).json()
    venue_data=results['response']['venue']
    venue_details=[]
    try:
        venue_id=venue_data['id']
        venue_name=venue_data['name']
        venue_likes=venue_data['likes']['count']
        venue_rating=venue_data['rating']
        venue_tips=venue_data['tips']['count']
        venue_details.
↪append([venue_id,venue_name,venue_likes,venue_rating,venue_tips])
    except KeyError:
        pass

    column_names=['ID','Name','Likes','Rating','Tips']
    df = pd.DataFrame(venue_details,columns=column_names)
    return df
```

Here i will take a help of define a function to get the New York City data such as Boroughs, Neighborhoods along with their latitude and longitude.

[11]:
```
def get_new_york_data():
    url='https://cocl.us/new_york_dataset'
    resp=requests.get(url).json()
    # all data is present in features label
    features=resp['features']

    # define the dataframe columns
    column_names = ['Borough', 'Neighborhood', 'Latitude', 'Longitude']
    # instantiate the dataframe
    new_york_data = pd.DataFrame(columns=column_names)

    for data in features:
        borough = data['properties']['borough']
        neighborhood_name = data['properties']['name']

        neighborhood_latlon = data['geometry']['coordinates']
        neighborhood_lat = neighborhood_latlon[1]
        neighborhood_lon = neighborhood_latlon[0]

        new_york_data = new_york_data.append({'Borough': borough,
                                              'Neighborhood': neighborhood_name,
                                              'Latitude': neighborhood_lat,
                                              'Longitude': neighborhood_lon},␣
↪ignore_index=True)
```

```
    return new_york_data
```

[12]:
```
# get new york data
import requests # library to handle requests
new_york_data=get_new_york_data()
```

[13]:
```
new_york_data.shape
```

[13]: (306, 4)

It shows that there is 306 different Neighborhoods in New York

[14]:
```
new_york_data.head()
```

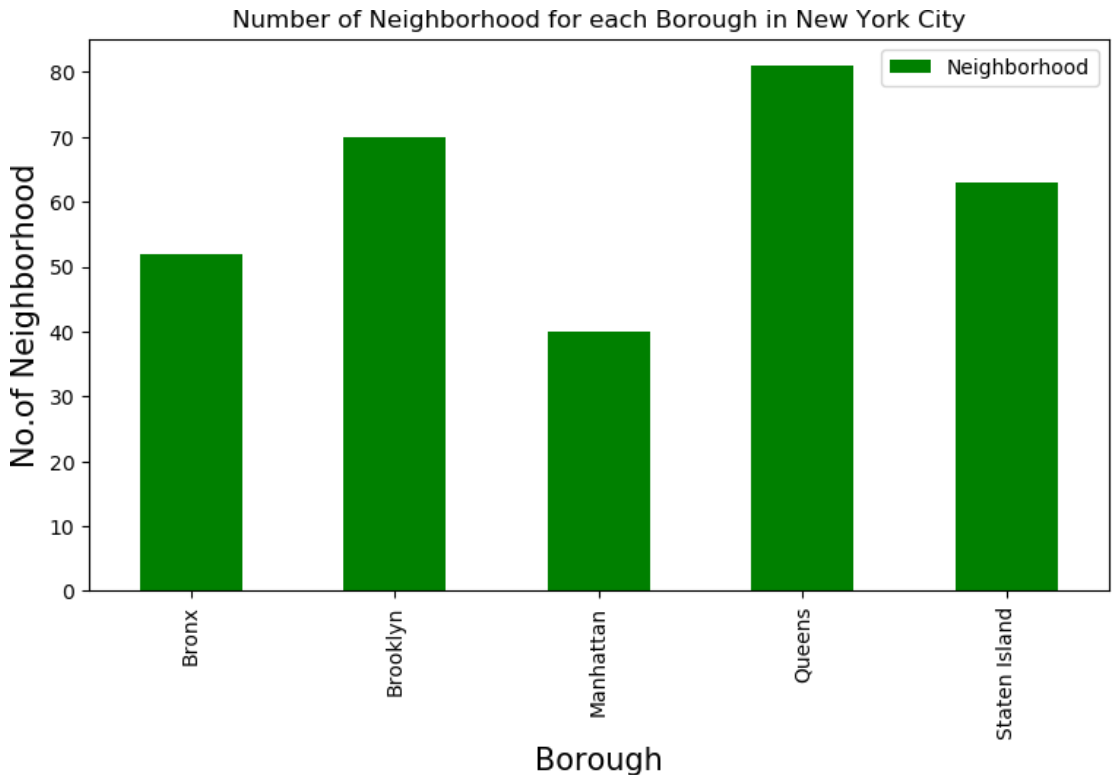
[14]:

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

[15]:
```
# Matplotlib and associated plotting modules
import matplotlib.pyplot as plt

import matplotlib.cm as cm
import matplotlib.colors as colors
%matplotlib inline
```

[16]:
```
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title("Number of Neighborhood for each Borough in New York City")
#On x-axis
plt.xlabel("Borough", fontsize = 15)
#On y-axis
plt.ylabel("No.of Neighborhood", fontsize=15)
#giving a bar plot
new_york_data.groupby("Borough")["Neighborhood"].count().
 ↪plot(kind="bar",color="green")
#legend
plt.legend()
#displays the plot
plt.show()
```



[3]:
```
#### The figure above shows that Queens has highest number of neighborhoods
```

[26]:
```
#prepare neighborhood list that contains Korean resturants
column_names=['Borough', 'Neighborhood', 'ID','Name']
korean_rest_ny=pd.DataFrame(columns=column_names)
count=1
for row in new_york_data.values.tolist():
    Borough, Neighborhood, Latitude, Longitude=row
    venues = get_venues(Latitude,Longitude)
    korean_resturants=venues[venues['Category']=='Korean Restaurant']
    print('(',count,'/',len(new_york_data),')','Korean Resturants in '
↪+Neighborhood+', '+Borough+':'+str(len(korean_resturants)))
    for resturant_detail in korean_resturants.values.tolist():
        id, name , category=resturant_detail
        korean_rest_ny = korean_rest_ny.append({'Borough': Borough,
                                                'Neighborhood': Neighborhood,
                                                'ID': id,
                                                'Name' : name
                                               }, ignore_index=True)
    count+=1
```

(1 / 306) Korean Resturants in Wakefield, Bronx:0

(2 / 306) Korean Resturants in Co-op City, Bronx:0
(3 / 306) Korean Resturants in Eastchester, Bronx:0
(4 / 306) Korean Resturants in Fieldston, Bronx:0
(5 / 306) Korean Resturants in Riverdale, Bronx:0

(304 / 306) Korean Resturants in Bayswater, Queens:0
(305 / 306) Korean Resturants in Queensbridge, Queens:0
(306 / 306) Korean Resturants in Fox Hills, Staten Island:0

this data have got all the Korean restaurants in New York city for analyzation.

[27]:
```
korean_rest_ny.head()
```

[27]:

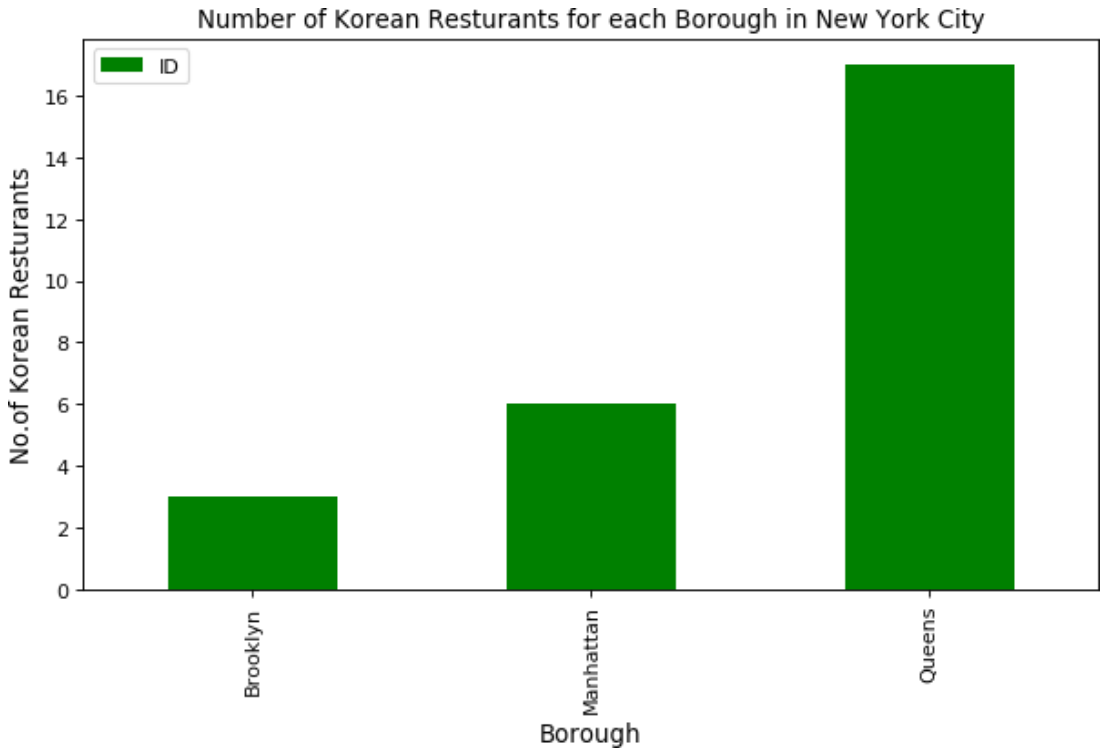
	Borough	Neighborhood	ID	Name
0	Brooklyn	Brighton Beach	4c9d5c0303133704a96f5ed5	Cafe At Your Mother-in-Law
1	Brooklyn	Prospect Heights	4fa162e0e4b0badc81404a51	Kimchi Grill
2	Brooklyn	Williamsburg	52bf3053498e754b09a440b5	Dotory
3	Manhattan	East Village	578bec6c498e3150fc369f3b	Thursday Kitchen
4	Manhattan	Manhattan Valley	56a14149498e9983c0199038	Mokja

[28]:
```
korean_rest_ny.shape
```

[28]: (26, 4)

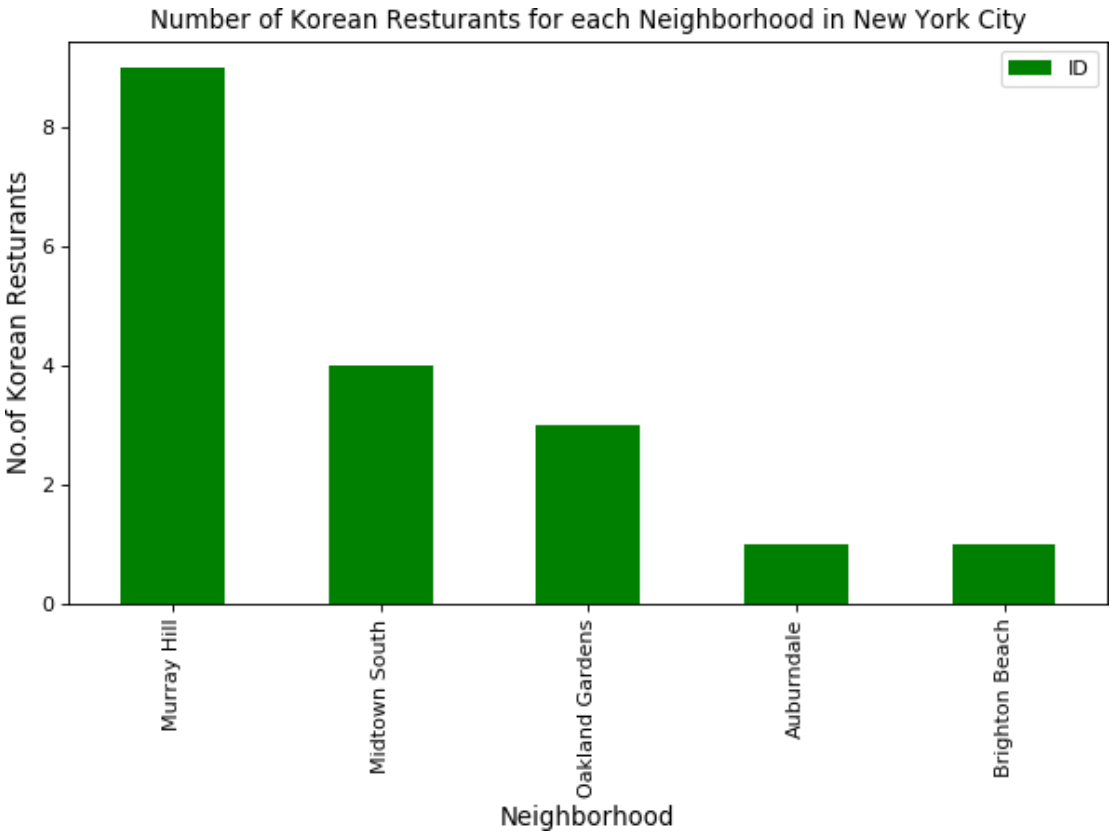
[29]:
```
plt.figure(figsize=(9,5), dpi = 80)
# title
plt.title("Number of Korean Resturants for each Borough in New York City")
#On x-axis
plt.xlabel("Borough", fontsize = 12)
#On y-axis
plt.ylabel("No.of Korean Resturants", fontsize=12)
#giving a bar plot
```

```
korean_rest_ny.groupby("Borough")["ID"].count().plot(kind="bar",color=["green"])
#legend
plt.legend()
#displays theplot
plt.show()
```



the above ftgure shows that Queens has the largest number of Korean restaurants

[30]:
```
plt.figure(figsize=(9,5), dpi = 80)
# title
plt.title("Number of Korean Resturants for each Neighborhood in New York City")
#On x-axis
plt.xlabel("Neighborhood", fontsize = 12)
#On y-axis
plt.ylabel("No.of Korean Resturants", fontsize=12)
#giving a bar plot
korean_rest_ny.groupby("Neighborhood")["ID"].count().nlargest(5).
↔plot(kind="bar",color=["green"])
#legend
plt.legend()
#displays theplot
plt.show()
```



[31]:
```
korean_rest_ny[korean_rest_ny["Neighborhood"]=="Murray Hill"]
```

[31]:

	Borough	Neighborhood	ID	Name
11	Queens	Murray Hill	4b830e44f964a520ebf430e3	Hahm Ji Bach -
12	Queens	Murray Hill	4b8f0931f964a520d04533e3	Mapo BBQ
13	Queens	Murray Hill	49e10e0bf964a52089611fe3	Mad For Chicken
14	Queens	Murray Hill	4baeabe6f964a52037cd3be3	Kum Sung Chik Naengmyun
15	Queens	Murray Hill	4c7ad3dda86837048bee144d	Geo Si Gi Restaurant
16	Queens	Murray Hill	5518a1a8498e4c7fe6268b88	Jongro BBQ
17	Queens	Murray Hill	5590598a498eb1c3f975b6a6	Mr. Tofu
18	Queens	Murray Hill	56db53cc498eed9b68621019	SGD TofuHouse
19	Queens	Murray Hill	4ad3bfabf964a52016e620e3	Han Joo

So Murray Hills in Queens has the largest number of Korean Restaurants with a total count of 9.

[32]:
```
# prepare neighborhood list that contains korean resturants
column_names=['Borough', 'Neighborhood', 'ID','Name','Likes','Rating','Tips']
korean_rest_stats_ny=pd.DataFrame(columns=column_names)
count=1
```

```
for row in korean_rest_ny.values.tolist():
    Borough,Neighborhood,ID,Name=row
    try:
        venue_details=get_venue_details(ID)
        print(venue_details)
        id,name,likes,rating,tips=venue_details.values.tolist()[0]
    except IndexError:
        print("No data available for id=",ID)

# we will assign 0 value for these resturants as they may have been
#recently opened or details does not exist in FourSquare Database
        id,name,likes,rating,tips=[0]*1
    print("(",count,"/",len(korean_rest_ny),")","processed")
    korean_rest_stats_ny = korean_rest_stats_ny.append({"Borough": Borough,
                                                        "Neighborhood": Neighborhood,
                                                        "ID": id,
                                                        "Name" : name,
                                                        "Likes" : likes,
                                                        "Rating" : rating,
                                                        "Tips" : tips
                                                       }, ignore_index=True)
    count+=1
```

```
                         ID                          Name  Likes  Rating  Tips
0  4c9d5c0303133704a96f5ed5  Cafe At Your Mother-in-Law     29     7.5    28
( 1 / 26 ) processed
                         ID          Name  Likes  Rating  Tips
0  4fa162e0e4b0badc81404a51  Kimchi Grill    289     8.4   108
( 2 / 26 ) processed
                         ID    Name  Likes  Rating  Tips
0  52bf3053498e754b09a440b5  Dotory    138     8.5    44
( 3 / 26 ) processed
                         ID             Name  Likes  Rating  Tips
0  578bec6c498e3150fc369f3b  Thursday Kitchen    274     8.9    72
( 4 / 26 ) processed
                         ID  Name  Likes  Rating  Tips
0  56a14149498e9983c0199038  Mokja     23     7.9     6
( 5 / 26 ) processed
                         ID      Name  Likes  Rating  Tips
0  4ae39cb6f964a520439721e3  Debasaki     67     8.4    35
( 6 / 26 ) processed
                         ID                       Name  Likes  Rating  Tips
0  4d3c9f7ea2e4b1f707f4ea25  Sky Garden @ Spa Castle     17     7.8     4
( 7 / 26 ) processed
```

```
korean_rest_stats_ny.head()
```

[33]:

[33]:

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Brooklyn	Brighton Beach	4c9d5c0303133704a96f5ed5	Cafe At Your Mother-in-Law	29	7.5	28
1	Brooklyn	Prospect Heights	4fa162e0e4b0badc81404a51	Kimchi Grill	289	8.4	108
2	Brooklyn	Williamsburg	52bf3053498e754b09a440b5	Dotory	138	8.5	44
3	Manhattan	East Village	578bec6c498e3150fc369f3b	Thursday Kitchen	274	8.9	72
4	Manhattan	Manhattan Valley	56a14149498e9983c0199038	Mokja	23	7.9	6

So we got data for all restaurants now i will save this data to a CSV sheet. In case we by mistake modify it. It better to refer to saved data sheet CSV if required

```
korean_rest_stats_ny.to_csv('korean_rest_stats_ny.csv', index=False)
```

[37]:

```
korean_rest_stats_ny_csv=pd.read_csv('korean_rest_stats_ny.csv')
```

[38]:

[39]:

```
korean_rest_stats_ny_csv.head()
```

[39]:

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Brooklyn	Brighton Beach	4c9d5c0303133704a96f5ed5	Cafe At Your Mother-in-Law	29	7.5	28
1	Brooklyn	Prospect Heights	4fa162e0e4b0badc81404a51	Kimchi Grill	289	8.4	108
2	Brooklyn	Williamsburg East	52bf3053498e754b09a440b5	Dotory	138	8.5	44
3	Manhattan	Village	578bec6c498e3150fc369f3b	Thursday Kitchen	274	8.9	72
4	Manhattan	Manhattan Valley	56a14149498e9983c0199038	Mokja	23	7.9	6

[40]:
```
korean_rest_stats_ny.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 26 entries, 0 to 25
Data columns (total 7 columns):
Borough          26 non-null object
Neighborhood     26 non-null object
ID               26 non-null object
Name             26 non-null object
Likes            26 non-null object
Rating           26 non-null float64
Tips             26 non-null object
dtypes: float64(1), object(6)
memory usage: 1.5+ KB
```

We see that values like Tips and likes are string values. We need to convert them into float for further analysis

[43]:
```
korean_rest_stats_ny['Likes']=korean_rest_stats_ny['Likes'].astype('float64')
korean_rest_stats_ny['Tips']=korean_rest_stats_ny['Tips'].astype('float64')
```

[41]:
```
korean_rest_stats_ny.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 26 entries, 0 to 25
Data columns (total 7 columns):
Borough          26 non-null object
Neighborhood     26 non-null object
ID               26 non-null object
Name             26 non-null object
Likes            26 non-null object
Rating           26 non-null float64
Tips             26 non-null object
dtypes: float64(1), object(6)
memory usage: 1.5+ KB
```

[44]:
```
korean_rest_stats_ny.iloc[korean_rest_stats_ny['Likes'].idxmax()]
korean_rest_stats_ny.iloc[korean_rest_stats_ny['Rating'].idxmax()]
korean_rest_stats_ny.iloc[korean_rest_stats_ny['Tips'].idxmax()]
```

[44]:
```
Borough                          Manhattan
Neighborhood                 Midtown South
ID              517563f9498e0a4859d08fe4
Name                    BCD Tofu House
Likes                             1198
Rating                               9
Tips                               199
Name: 23, dtype: object
```

Now we need to visualize neighborhood with maximum average rating of restaurants

[46]:
```
ny_neighborhood_stats=korean_rest_stats_ny.
 ↪groupby('Neighborhood',as_index=False).mean()[['Neighborhood','Rating']]
ny_neighborhood_stats.columns=['Neighborhood','Average Rating']
```

[47]:
```
ny_neighborhood_stats.sort_values(['Average Rating'],ascending=False).head(10)
```

[47]:

	Neighborhood	Average Rating
7	Midtown South	9.025000
3	East Village	8.900000
0	Auburndale	8.600000
12	Williamsburg	8.500000
4	Flushing	8.400000
10	Prospect Heights	8.400000
11	Sunnyside Gardens	8.300000
8	Murray Hill	8.111111
6	Manhattan Valley	7.900000
2	College Point	7.800000

Same as these are the average rating of Korean Restaurants for each Borough

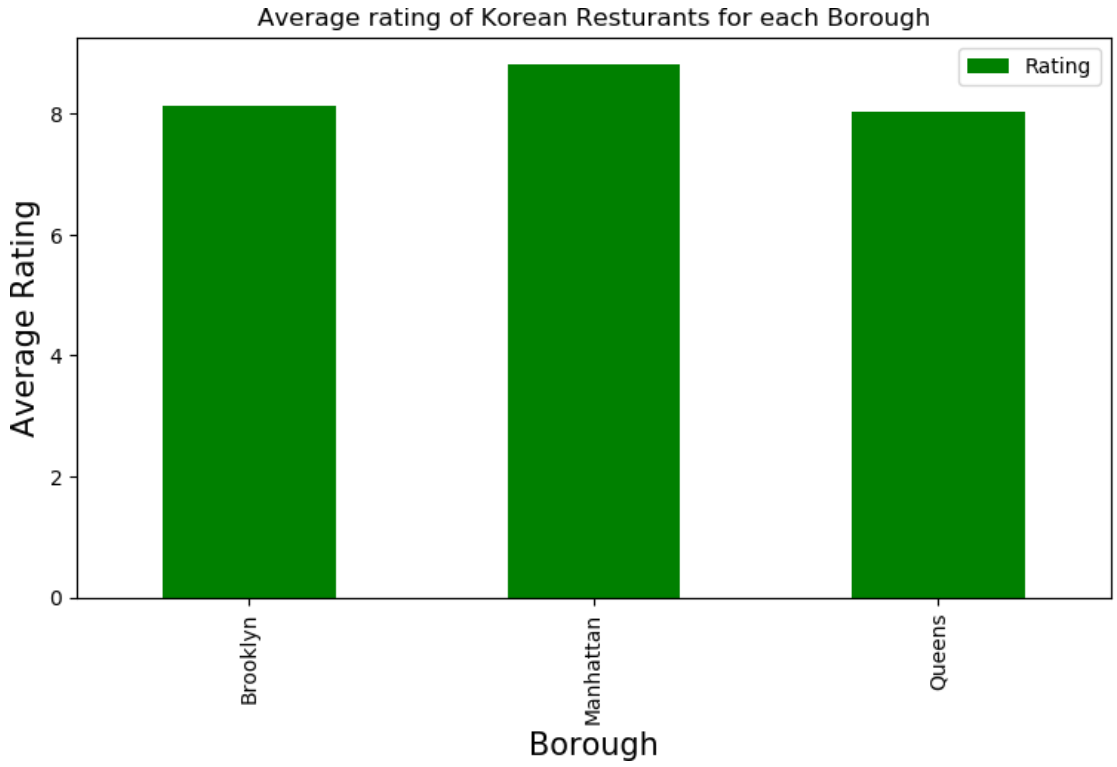
[48]:
```
ny_borough_stats=korean_rest_stats_ny.groupby('Borough',as_index=False).
 ↪mean()[['Borough','Rating']]
ny_borough_stats.columns=['Borough','Average Rating']
```

[49]:
```
ny_borough_stats.sort_values(['Average Rating'],ascending=False).head()
```

[49]:

	Borough	Average Rating
1	Manhattan	8.816667
0	Brooklyn	8.133333
2	Queens	8.023529

[50]:
```
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('Average rating of Korean Resturants for each Borough')
#On x-axis
plt.xlabel('Borough', fontsize = 15)
#On y-axis
plt.ylabel('Average Rating', fontsize=15)
#giving a bar plot
korean_rest_stats_ny.groupby('Borough').mean()['Rating'].
 ↪plot(kind='bar',color=['green'])
#legend
plt.legend()
#displays theplot
plt.show()
```



here i will consider all the neighborhoods with average rating greater or equal 8.8 to visualize on map

[51]:
```
ny_neighborhood_stats=ny_neighborhood_stats[ny_neighborhood_stats["Average␣
↪Rating"]>=8.8]
```

[52]:
```
ny_neighborhood_stats
```

[52]:

	Neighborhood	Average Rating
3	East Village	8.900
7	Midtown South	9.025

here it is needed to join this dataset to original New York data to get longitude and latitude.

[56]:
```
ny_neighborhood_stats=pd.merge(ny_neighborhood_stats,new_york_data,␣
↪on="Neighborhood")
```

[57]:
```
ny_neighborhood_stats=ny_neighborhood_stats[["Borough","Neighborhood","Latitude","Longitude","
↪Rating"]]
```

[58]:
```
ny_neighborhood_stats
```

[58] :

	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Manhattan	East Village	40.727847	-73.982226	8.900
1	Manhattan	Midtown South	40.748510	-73.988713	9.025

Now I will show this data on a map.

[59]:
```
# create map and displayit
ny_map = folium.Map(location=geo_location('New York'), zoom_start=12)
```

[60]:
```
# instantiate a feature group for the incidents in the dataframe
incidents = folium.map.FeatureGroup()

# loop through the 100 crimes and add each to the incidents feature group
for lat, lng, in ny_neighborhood_stats[['Latitude','Longitude']].values:
    incidents.add_child(
        folium.CircleMarker(
            [lat, lng],
            radius=10, # define how big you want the circle markers to be
            color='yellow',
            fill=True,
            fill_color='blue',
            fill_opacity=0.6
        )
    )
```

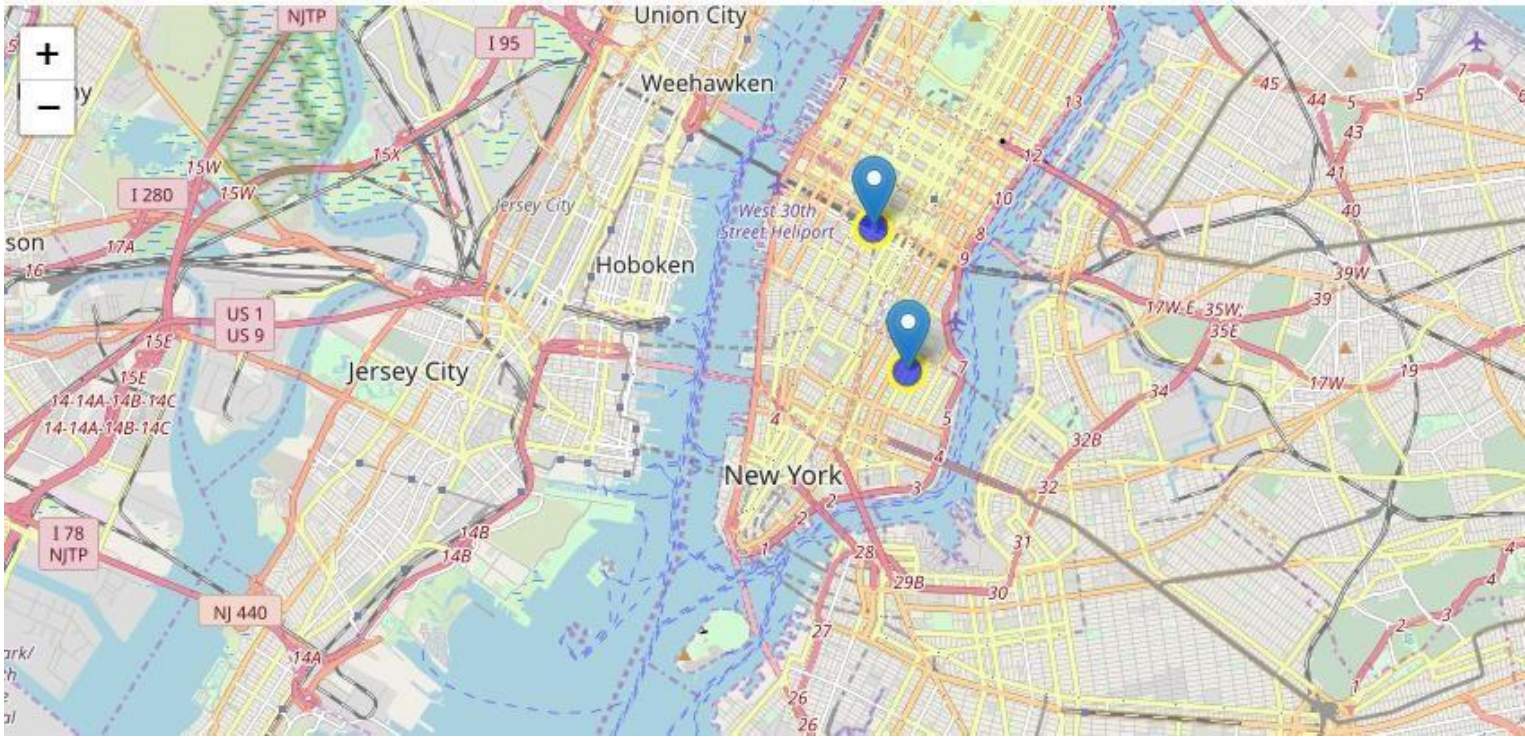
now Lets add a new fteld to data frame for labeling purpose.

[61]:
```
ny_neighborhood_stats['Label']=ny_neighborhood_stats['Neighborhood']+',␣
↪'+ny_neighborhood_stats['Borough']+'('+ny_neighborhood_stats['Average␣
↪Rating'].map(str)+')'
```

[62]:
```
# add pop-up text to each marker on the map
for lat, lng, label in ny_neighborhood_stats[['Latitude','Longitude','Label']].
↪values:
    folium.Marker([lat, lng], popup=label).add_to(ny_map)

# add incidents tomap
ny_map.add_child(incidents)
```

[62]: **There are two restaurant in Neighborhood based on average rating greater than or Equal to 8.8**



Now i have visualized the Neighborhoods. Next i will visualize boroughs based on average rating

[63]:
```
ny_map = folium.Map(location=geo_location("New York"), zoom_start=12)
ny_geo = r"Borough Boundaries.geojson"
```

```
ny_map.choropleth(
    geo_data=ny_geo,
    data=ny_borough_stats,
    columns=['Borough',  'Average  Rating'],
    key_on='feature.properties.boro_name',
    fill_color='YlOrRd',
    fill_opacity=0.7,
    line_opacity=0.2,
    legend_name='Average  Rating'
)

# display

# as this is huge map data , we will save it to a file
ny_map.save('borough_rating.html')
```

This is the of link the saved images:-

https://github.com/shweta30n/Github/blob/master/Borough%20Boundaries%20(1).geojson

DISSCUTION:

- **I feel this capstone project has provide the opportunity to understand and apply these data science tools and algorithms in more appropriate manner.**
- **In this project I found New York is cultural diverse city which has many Different cuisine restaurant, which mean this area has more opportunity For Korean restaurant to open.**

CONCULSION (RECOMMENDATION):

East village (Manhattan), Midtown South (Manhattan) are some of the best neighbor- hoods for Korean Cuisine.

Manhattan has potential Korean Restaurant Market.

Brooklyn and Queens Ranks stand same in average rating standard of Korean Restaurants.

Manhattan is the best place to stay if you prefer Korean Cuisine.

[ ]: