Capstone Project_The Battle of Neighborhoods-Copy1

April 3, 2019

1 Introduction

Starting from the California gold rush which brought over twenty thousand Chinese immigrants to the United States, Chinese restaurants were spread all over to America's east coast, such as New York City, and west coast, San Fransisco. People like to use the term "melt pot" to describe the culture of New York City. With its diverse culture, we want to examine a good location to open a Chinese restaurant in Manhattan, which has a strong Chinese demographic.

2 Data

To find the best location to open a Chinese restaurant, I will use New York City data that contains the latitude and longitude of all Chinese restaurants in Manhattan. The data is public available: https://cocl.us/new_york_dataset.

  To have more information on each Chinese restaurants, I will use the Foursquare API.

3 Methodology section

The data is from a public resource that contains all restaurants information in New York. I only want to explore Chinese restaurants in Manhattan. Therefore, I create a new variable labeled "manhattan_ny". Then, I combined the data with information of restaurants from Foursquare API with "Likes", "Tips", and "Rating".
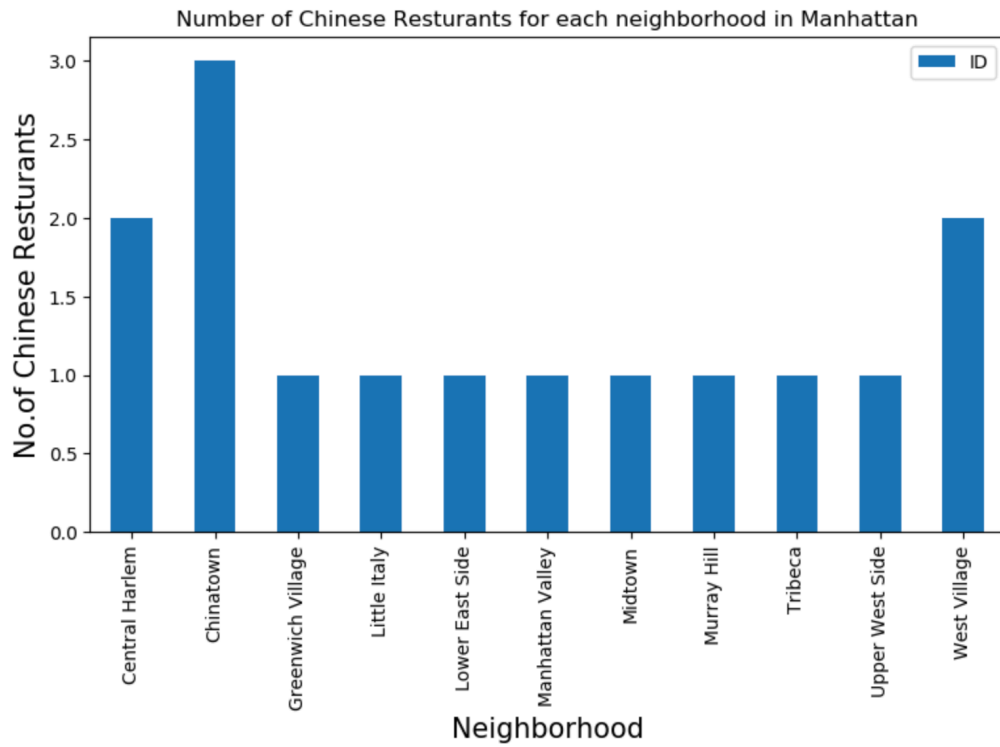
  I plot a figure to understand how many Chinese restaurants in each neighborhood in Manhattan. Also, I examine the ranking for tips, ratings, and likes for all Chinese restaurants. Then, I examine the average rating for each neighborhood to see if the local people like Chinese food or not.

4 Results section

The following table summarizes the number of Chinese restaurants in each neighborhood in Manhattan.

```
In [10]: from IPython.display import Image
         Image(filename='Screen Shot 2019-04-03 at 11.38.58 AM.png')

Out[10]:
```

Number of Chinese Resturants for each neighborhood in Manhattan

The following table lists all Chinese restaurants in Manhattan with their names, likes, tips and ratings.

```
In [6]: Image(filename='Screen Shot 2019-04-03 at 12.09.52 PM.png')

Out[6]:
```

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Manhattan	Chinatown	4db3374590a0843f295fb69b	Spicy Village	479	9.0	178
1	Manhattan	Chinatown	5894c9a15e56b417cf79e553	Xi'an Famous Foods	90	8.8	25
2	Manhattan	Chinatown	3fd66200f964a52067e61ee3	Joe's Shanghai 鹿鳴春	1271	8.9	563
3	Manhattan	Central Harlem	4bd1f6909854d13a38a2fa4d	88 Chinese Restaurant	8	7.9	4
4	Manhattan	Central Harlem	4bf348fce5eba593c8711e90	Crispy Bamboo Village	9	7.7	2
5	Manhattan	Upper West Side	5529bfd8498ec6ce692d8015	Han Dynasty	303	8.9	65
6	Manhattan	Midtown	517021ffe4b0ad9829ae7815	Xi'an Famous Foods	914	9.0	251
7	Manhattan	Murray Hill	4e3484038877beb5e9a22a0b	Café China	992	9.2	271
8	Manhattan	Greenwich Village	5a20df1742d8c2528e74211f	Chow House	38	9.1	2
9	Manhattan	Lower East Side	5b380f649deb7d00399fdf9d	Kings County Imperial	38	8.9	4
10	Manhattan	Tribeca	5237264111d27e8e90c10357	China Blue	327	9.0	82
11	Manhattan	Little Italy	56ccead2498e8cad8d3cedff	Xi'an Famous Foods	239	9.2	54
12	Manhattan	West Village	526eeb54498e9674b5d9034a	Decoy	315	9.3	103
13	Manhattan	West Village	4e1df590b61c7cb34d9735a8	RedFarm	697	9.2	283
14	Manhattan	Manhattan Valley	529e3657498efb17e9c800b7	Xi'an Famous Foods	291	8.8	76

The following summarizes the restaurants with highest number of likes, ratings and tips.

```
In [7]: Image(filename='Screen Shot 2019-04-03 at 12.11.14 PM.png')

Out[7]:
```

```
chinese_rest_stats_ny.iloc[chinese_rest_stats_ny['Likes'].idxmax()]
```

```
Borough                        Manhattan
Neighborhood                   Chinatown
ID                3fd66200f964a52067e61ee3
Name              Joe's Shanghai 鹿鳴春
Likes                               1271
Rating                               8.9
Tips                                 563
Name: 2, dtype: object
```

Find the restaurant with maximum Likes

```
chinese_rest_stats_ny.iloc[chinese_rest_stats_ny['Rating'].idxmax()]
```

```
Borough                        Manhattan
Neighborhood                 West Village
ID                526eeb54498e9674b5d9034a
Name                              Decoy
Likes                                315
Rating                               9.3
Tips                                 103
Name: 12, dtype: object
```

Find the restaurant with maximum Tips

```
chinese_rest_stats_ny_csv.iloc[chinese_rest_stats_ny_csv['Tips'].idxmax()]
```

```
Borough                        Manhattan
Neighborhood                   Chinatown
ID                3fd66200f964a52067e61ee3
Name              Joe's Shanghai 鹿鳴春
Likes                               1271
Rating                               8.9
Tips                                 563
Name: 2, dtype: object
```

I average all ratings for each neighborhood to check people in which neighborhood tend to give the highest rating.

```
In [8]: Image(filename='Screen Shot 2019-04-03 at 12.14.40 PM.png')
```

```
Out[8]:
```

	Neighborhood	Average Rating
10	West Village	9.25
3	Little Italy	9.20
7	Murray Hill	9.20
2	Greenwich Village	9.10
6	Midtown	9.00
8	Tribeca	9.00
1	Chinatown	8.90
4	Lower East Side	8.90
9	Upper West Side	8.90
5	Manhattan Valley	8.80
0	Central Harlem	7.80

5 Discussion section

From the result session, we can see people live in west village tend to give the highest rating to Chinese cuisine with an average of 9.25. Joe's Shanghai has the highest likes and tips in the neighborhood of Chinatown with total likes of 1271 and total tips of 563. Decoy in west village tend to have the highest rating of 9.3. Overall, Joe's Shanghai is the most popular one and has a great market to open a similar one in other neighborhood.

6 Conclusion section

There are two Chinese restaurants in west village and people have a high rating to Chinese food. Furthermore, there is no similar Shanghai cuisine there. If someone wants to open a new Chinese restaurant in Manhattan, I would recommend to open one similar to Joe's Shanghai in west village.