

The Battle of Neighborhoods

Introduction

New York City (shortened to NYC), is located in the state of New York and is the largest city in the United States. New York City has over 8 million people currently living in it, and over 22 million people live in the bigger New York metropolitan area. It is the most densely populated and most diverse City in the United States of America. It is the financial capital of the US since it is home to the nation's stock market, Wall Street, and the One World Trade Center. As a leading global city; New York exerts culture, media and capital internationally, As many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. New York has more than 3.2 million people born outside the United States, the biggest foreign-born population of any city in the world as of 2016. The city is made up of 5 boroughs: Manhattan, Brooklyn, Queens, the Bronx and Staten Island.

Business Problem

As New York City has many immigrants from all over the world, they each have their propensity to eat the cuisine from their own country of origin.

I will be looking into the restaurants that provide good Indian cuisine for all the Indian community to enjoy. Also, there are many tourists from India, who also visit New York City regularly and would want to have information about good local Indian restaurants. Furthermore, this information will help the local residents of New York City also.

Therefore, The question I will be trying to answer is:

Which neighborhood in New York City has the most Indian restaurants?

Data Section

- I will be using the dataset for the neighborhoods of New York City that was published by New York (City). Department of City Planning which is available at :
https://geo.nyu.edu/catalog/nyu_2451_34572
- This dataset contains all the neighbourhoods in the 5 boroughs along with the respective Latitude and Longitude values.
- I will use Foursquare location API which is well-known location data provider to get venue data for Indian restaurants
The Foursquare venue category for the above data is :
4bf58dd8d48988d10f941735

Methodology

- We start by getting the required information of Borough, Neighborhood, Latitude and Longitude of New York City from https://geo.nyu.edu/catalog/nyu_2451_34572

```
{'type': 'Feature',  
  'id': 'nyu_2451_34572.1',  
  'geometry': {'type': 'Point',  
    'coordinates': [-73.84720052054902, 40.89470517661]},  
  'geometry_name': 'geom',  
  'properties': {'name': 'Wakefield',  
    'stacked': 1,  
    'annoline1': 'Wakefield',  
    'annoline2': None,  
    'annoline3': None,  
    'annoangle': 0.0,  
    'borough': 'Bronx',  
    'bbox': [-73.84720052054902,  
      40.89470517661,  
      -73.84720052054902,  
      40.89470517661]}}
```

- Next we create a pandas dataframe using the Json data

	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

- We extract the Indian Restaurants data of each New York Neighbourhood using the Foursquare API.

```
( 1 / 306 ) indian Resturants in Wakefield, Bronx:12
( 2 / 306 ) indian Resturants in Co-op City, Bronx:22
( 3 / 306 ) indian Resturants in Eastchester, Bronx:16
( 4 / 306 ) indian Resturants in Fieldston, Bronx:11
( 5 / 306 ) indian Resturants in Riverdale, Bronx:14
( 6 / 306 ) indian Resturants in Kingsbridge, Bronx:30
( 7 / 306 ) indian Resturants in Marble Hill, Manhattan:30
( 8 / 306 ) indian Resturants in Woodlawn, Bronx:17
( 9 / 306 ) indian Resturants in Norwood, Bronx:14
( 10 / 306 ) indian Resturants in Williamsbridge, Bronx:15
( 11 / 306 ) indian Resturants in Baychester, Bronx:15
( 12 / 306 ) indian Resturants in Pelham Parkway, Bronx:14
( 13 / 306 ) indian Resturants in City Island, Bronx:30
( 14 / 306 ) indian Resturants in Bedford Park, Bronx:8
( 15 / 306 ) indian Resturants in University Heights, Bronx:30
( 16 / 306 ) indian Resturants in Morris Heights, Bronx:30
( 17 / 306 ) indian Resturants in Fordham, Bronx:30
( 18 / 306 ) indian Resturants in East Tremont, Bronx:12
( 19 / 306 ) indian Resturants in West Farms, Bronx:12
( 20 / 306 ) indian Resturants in High Bridge, Bronx:9
```

- We then convert the raw data into a pandas dataframe and also a CSV file.

	Borough	Neighborhood	ID	Name
0	Bronx	Wakefield	4c0448d9310fc9b6bf1dc761	Curry Spot
1	Bronx	Wakefield	4fdd2908e4b0ec5a8f28090f	Neha Palace
2	Bronx	Wakefield	570c3a3fcd10eecd0d0434cd	Agra Grill
3	Bronx	Wakefield	57363fd4498eb703a5b5ea35	Aman Restaurant

There are a total of 6520 Indian restaurants in New York city

Now we create a Bar Plot to show the number of restaurants in each Borough and Neighborhood New York City.

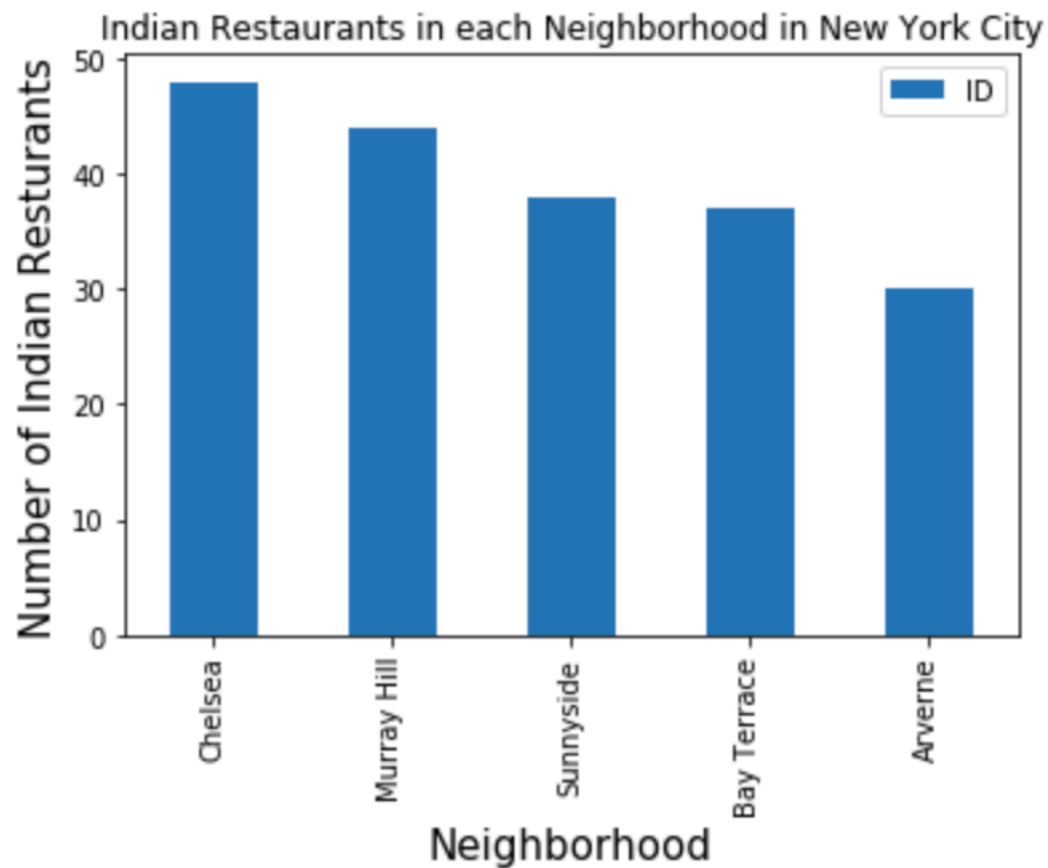
Results

We can now answer the question. Raised at the start of the report.

- There are a total of 6520 Indian restaurants in New York city
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- From this we can see that the borough of Queens has the most Indian Restaurants followed by Brooklyn.



- we can also see that the neighborhood of Chelsea has the most Indian Restaurants followed by Murray Hill.



Discussion

To the target audience of Indian immigrants, tourists and locals, I would recommend a visit to the Chelsea neighbourhood in Queens to get a lot of choice of Indian restaurants.

Conclusion

This report gives a general idea of the areas in New York City which have Indian Restaurants.

It also utilises the required Foursquare API to come to a conclusion.