Project:

1. New York city and London are two big cities in the world. They are very similar that they can offer architecture, culture, entertainment and food. In this project, it will explore neighborhoods of the two cities and determine how similar they are. Specially, this project will analyze more Diner and Food venues to see how similar they are
2. Data in this project will present specific places in London with the most popular in terms number of restaurants opened.

It is beneficial for one if he/she is interested in opening a restaurant in a new location like Lodon.

Here are the set of data will be compared

* 1. Locations, Latitude and Longtitude of London

Use url=<https://en.wikipedia.org/wiki/List_of_areas_of_London> to retrieve data

The dataframe has 60 boroughs and 529 neighborhoods.

[149]: Borough Neighborhood PostTown PostCode GridRef \

0 Bexley, Greenwich Abbey Wood LONDON SE2 TQ465785

1 Ealing, Hammersmith and Fulham Acton LONDON W3, W4 TQ205805

2 Croydon Addington CROYDON CR0 TQ375645

3 Croydon Addiscombe CROYDON CR0 TQ345665

5 Islington Angel LONDON EC1, N1 TQ345665

Latitude Longitude

0 51.486480 0.108590

1 51.510580 0.264980

2 51.362931 0.026373

3 51.381621 0.068682

5 51.381621 0.068682

* 1. Explore venues in Greenwich, South Kensington, Bankside, Belgravia, Bloomsbury

compared to Manhattan location

Example: using location Greenwich

[151]: Borough Neighborhood PostTown \

0 Bexley, Greenwich Abbey Wood LONDON

71 Greenwich Blackheath Royal Standard LONDON

113 Greenwich Charlton LONDON

199 Greenwich Eltham LONDON

206 Bexley, Greenwich Falconwood LONDON, WELLING

PostCode GridRef Latitude Longitude

0 SE2 TQ465785 51.486480 0.108590

71 SE3, SE12 TQ399753 51.459395 0.012333

113 SE7 TQ415785 51.487752 0.036628

199 SE9 TQ425745 51.451558 0.049410

206 SE9, DA16 TQ455755 51.459780 0.092965

* 1. Analyze each neighborhood

Using FourSquare api:

[171]: {'meta': {'code': 200, 'requestId': '60cfdd2841de6c41c3ead31e'},

'response': {'headerLocation': 'Abbey Wood',

'headerFullLocation': 'Abbey Wood, London',

'headerLocationGranularity': 'neighborhood',

'totalResults': 9,

'suggestedBounds': {'ne': {'lat': 51.49548000900001,

'lng': 0.12301623284609638},

'sw': {'lat': 51.47747999099999, 'lng': 0.09416376715390364}},

'groups': [{'type': 'Recommended Places',

'name': 'recommended',

'items': [{'reasons': {'count': 0,

'items': [{'summary': 'This spot is popular',

'type': 'general',

'reasonName': 'globalInteractionReason'}]},

'venue': {'id': '4bf181d61f17ef3bfcf59bc8',

'name': 'Co-op Food',

'location': {'address': '103-116 McLeod Road, Abbey Wood',

'lat': 51.48749044462791,

'lng': 0.11375092312386315,

'labeledLatLngs': [{'label': 'display',

'lat': 51.48749044462791,

'lng': 0.11375092312386315}],

'distance': 375,

'postalCode': 'SE2 0BS',

'cc': 'GB',

'city': 'London',

'state': 'Greater London',

'country': 'United Kingdom',

'formattedAddress': ['103-116 McLeod Road, Abbey Wood',

'London',

'Greater London',

'SE2 0BS',

'United Kingdom']},

'categories': [{'id': '4bf58dd8d48988d118951735',

'name': 'Grocery Store',

'pluralName': 'Grocery Stores',

'shortName': 'Grocery Store',

'icon': {'prefix':

'https://ss3.4sqi.net/img/categories\_v2/shops/food\_grocery\_',

'suffix': '.png'},

'primary': True}],

'photos': {'count': 0, 'groups': []}},

'referralId': 'e-0-4bf181d61f17ef3bfcf59bc8-0'},

{'reasons': {'count': 0,

10

[182]: greenwich\_venues.groupby('Neighborhood').count()

[182]: Neighborhood Latitude Neighborhood Longitude \

Neighborhood

Abbey Wood 3 3

Blackheath Royal Standard 12 12

Charlton 16 16

Eltham 25 25

Falconwood 4 4

Greenwich 8 8

Horn Park 3 3

Kidbrooke 5 5

Maze Hill 10 10

New Eltham 7 7

Plumstead 4 4

Shooter's Hill 4 4

Thamesmead 6 6

Well Hall 12 12

Westcombe Park 10 10

Woolwich 20 20

Venue Venue Latitude Venue Longitude \

Neighborhood

Abbey Wood 3 3 3

Blackheath Royal Standard 12 12 12

Charlton 16 16 16

Eltham 25 25 25

Falconwood 4 4 4

Greenwich 8 8 8

Horn Park 3 3 3

Kidbrooke 5 5 5

Maze Hill 10 10 10

New Eltham 7 7 7

Plumstead 4 4 4

Shooter's Hill 4 4 4

Thamesmead 6 6 6

Well Hall 12 12 12

Westcombe Park 10 10 10

Woolwich 20 20 20

Venue Category

Neighborhood

Abbey Wood 3

Blackheath Royal Standard 12

19

Charlton 16  
Eltham 25  
Falconwood 4  
Greenwich 8  
Horn Park 3  
Kidbrooke 5  
Maze Hill 10  
New Eltham 7  
Plumstead 4  
Shooter's Hill 4  
Thamesmead 6  
Well Hall 12  
Westcombe Park 10  
Woolwich 20  
print('There are {} uniques categories.'.format(len(greenwich\_venues['Venue␣  
,→Category'].unique())))

)  
[194]: Neighborhood 1st Most Common Venue \  
0 Abbey Wood Indian Restaurant  
1 Blackheath Royal Standard Pub  
2 Charlton Electronics Store  
3 Eltham Pub  
32

|  |  |  |  |
| --- | --- | --- | --- |
| 4 | Falconwood  2nd Most Common Venue | Indian Restaurant 3rd Most Common Venue | 4th Most Common Venue \ |

0 Playground Grocery Store Furniture / Home Store  
1 Café Pilates Studio Bus Stop  
2 Pub Food Truck Furniture / Home Store  
3 Fast Food Restaurant Warehouse Store Clothing Store  
4 Construction & Landscaping Furniture / Home Store Event Service  
5th Most Common Venue 6th Most Common Venue 7th Most Common Venue \  
0 Fish & Chips Shop Food Truck Forest  
1 Supermarket Italian Restaurant Gift Shop  
2 Platform Chinese Restaurant Fast Food Restaurant  
3 Pharmacy Fish & Chips Shop Movie Theater  
4 Fish & Chips Shop Food Truck Forest  
8th Most Common Venue 9th Most Common Venue 10th Most Common Venue  
0 Fountain Fried Chicken Joint Garden  
1 Kebab Restaurant Pharmacy Shopping Plaza  
2 Carpet Store Café Soccer Stadium  
3 Department Store Sandwich Place Optical Shop  
4 Fountain Fried Chicken Joint Garden

* 1. Cluster neighborhood (k-means)

[210]: Borough Neighborhood PostTown \  
0 Bexley, Greenwich Abbey Wood LONDON  
71 Greenwich Blackheath Royal Standard LONDON  
113 Greenwich Charlton LONDON  
199 Greenwich Eltham LONDON  
206 Bexley, Greenwich Falconwood LONDON, WELLING  
232 Greenwich Greenwich LONDON  
299 Greenwich, Lewisham Horn Park LONDON  
322 Greenwich Kidbrooke LONDON  
365 Greenwich Maze Hill LONDON  
367 Greenwich Westcombe Park LONDON  
370 Greenwich Middle Park LONDON  
387 Greenwich New Eltham LONDON  
409 Greenwich Woolwich LONDON  
444 Greenwich Plumstead LONDON  
482 Greenwich Shooter's Hill LONDON  
538 Bexley, Greenwich Thamesmead LONDON, ERITH  
580 Greenwich Well Hall LONDON  
PostCode GridRef Latitude Longitude Cluster Labels \  
0 SE2 TQ465785 51.486480 0.108590 2  
71 SE3, SE12 TQ399753 51.459395 0.012333 0  
113 SE7 TQ415785 51.487752 0.036628 0  
199 SE9 TQ425745 51.451558 0.049410 0  
206 SE9, DA16 TQ455755 51.459780 0.092965 4  
232 SE10 TQ395775 51.479262 0.007447 3  
299 SE12 TQ408739 51.446591 0.024722 3  
322 SE3 TQ415765 51.469780 0.035820 3  
365 SE10 TQ402780 51.483582 0.017719 0  
367 SE3 TQ402780 51.483582 0.017719 0  
370 SE9 TQ417738 51.445460 0.037625 0  
387 SE9 TQ440730 51.437700 0.070373 0  
409 SE18 TQ435795 51.496234 0.065821 0  
444 SE18 TQ445785 51.486994 0.079807 1  
482 SE18 TQ435765 51.469277 0.064603 0  
538 SE28, SE2, DA18 TQ475805 51.504191 0.123810 0  
580 SE9 TQ425751 51.456949 0.049652 0

|  |  |  |  |
| --- | --- | --- | --- |
| 1st Most Common Venue  Indian Restaurant | 2nd Most Common Venue  Playground | 3rd Most Common Venue \ Grocery Store | 0 |

1. Examine clusters to determine which place is the best to open a restaurant