In [223]:

```
# Import required library
import numpy as np # library to handle data in a vectorized manner

import pandas as pd # library for data analsysis
pd.set_option('display.max_columns', None)
pd.set_option('display.max_rows', None)

import json # library to handle JSON files

!conda install -c conda-forge geopy --yes # uncomment this line if you haven't co
from geopy.geocoders import Nominatim # convert an address into latitude and long

import requests # library to handle requests
from pandas.io.json import json_normalize # tranform JSON file into a pandas data

# Matplotlib and associated plotting modules
import matplotlib.cm as cm
import matplotlib.colors as colors

#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 hav
import folium # map rendering library

print('Libraries imported.')

# Scrape Wikipedia page
df = pd.read_html("https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_
#Export dataframe to excel file
headings = ['Postcode', 'Borough', 'Neighbourhood']
df[0].to_csv("df.csv", index=False)
df = pd.DataFrame(df[0],columns=headings)
#Ignoring cells with a borough that is 'Not assigned'
df=df[~(df['Borough']== 'Not assigned')]
#Combining into one row with the neighborhoods separated with a comma
df=df.groupby(['Postcode','Borough'],as_index=False).agg(lambda x : x.sum() if x.
#Not assigned neighborhood will be the same as the borough
df.loc[df.Neighbourhood == 'Not assigned', 'Neighbourhood'] = df['Borough']
#print the number of rows of your dataframe.
df.shape
headings = ['Postcode', 'Latitude', 'Longitude']
df1 = pd.read_csv("https://cocl.us/Geospatial_data" , names=headings, skiprows=1)
result=pd.merge(df, df1, on='Postcode', how='inner')
```

```
Collecting package metadata: done
Solving environment: done

# All requested packages already installed.

Collecting package metadata: done
Solving environment: done

# All requested packages already installed.
```

Libraries imported.

In [224]:

```
toronto_data= result[result.Borough.str.contains('Toronto', case=False)]
toronto_data.reset_index(drop=True)
toronto_data
address = 'Toronto'
```

In [225]:

```
geolocator = Nominatim(user_agent="ny_explorer")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print('The geograpical coordinate of Toronto are {}, {}.'.format(latitude, longit
```

```
The geograpical coordinate of Toronto are 43.653963, -79.387207.
```

In [226]:

```
# map_toronto = folium.Map(location=[latitude, longitude], zoom_start=11)

# add markers to map
for lat, lng, label in zip(toronto_data.Latitude, toronto_data.Longitude, toronto
    label = folium.Popup(label, parse_html=True)
    folium.CircleMarker(
        [lat, lng],
        radius=5,
        popup=label,
        color='blue',
        fill=True,
        fill_color='#3186cc',
        fill_opacity=0.7,
        parse_html=False).add_to(map_toronto)

map_toronto
```

Out[226]:

In [227]:

```
CLIENT_ID = 'J4Q3Q0XZV1VS4DHWIOV11SIL3CN5ZRU5WQQGJFHZSACBTZE1' # your Foursquare
CLIENT_SECRET = 'OZHSLJXO0X3JIZFFZ1F4DNYT0SBOMTDEJQOBTC22EQS441X4' # your Foursqu
VERSION = '20190223' # Foursquare API version
neighbourhood_latitude = toronto_data.iloc[0, 3] # neighborhood latitude value
neighbourhood_longitude = toronto_data.iloc[0, 4] # neighborhood longitude value
neighbourhood_name = toronto_data.iloc[0, 2] # neighborhood name

print('Latitude and longitude values of {} are {}, {}.'.format(neighbourhood_name
                                                               neighbourhood_lati
                                                               neighbourhood_long
LIMIT = 100 # limit of number of venues returned by Foursquare API
radius = 500 # define radius
url = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={
    CLIENT_ID,
    CLIENT_SECRET,
    VERSION,
    neighbourhood_latitude,
    neighbourhood_longitude,
    radius,
    LIMIT)
#url # display URL
results = requests.get(url).json()
#result
```

```
Latitude and longitude values of The Beaches are 43.67635739999999,
-79.2930312.
```

In [228]:

```
def getNearbyVenues(names, latitudes, longitudes, radius=500):

    venues_list=[]
    for name, lat, lng in zip(names, latitudes, longitudes):
        print(name)

        # create the API request URL
        url = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_
            CLIENT_ID,
            CLIENT_SECRET,
            VERSION,
            lat,
            lng,
            radius,
            LIMIT)

        # make the GET request
        results = requests.get(url).json()["response"]['groups'][0]['items']

        # return only relevant information for each nearby venue
        venues_list.append([(
            name,
            lat,
            lng,
            v['venue']['name'],
            v['venue']['location']['lat'],
```

```
            v['venue']['location']['lng'],
            v['venue']['categories'][0]['name']) for v in results])

    nearby_venues = pd.DataFrame([item for venue_list in venues_list for item in
    nearby_venues.columns = ['Neighbourhood',
                  'Neighbourhood Latitude',
                  'Neighbourhood Longitude',
                  'Venue',
                  'Venue Latitude',
                  'Venue Longitude',
                  'Venue Category']

    return(nearby_venues)
toronto_venues = getNearbyVenues(names=toronto_data['Neighbourhood'],
                                 latitudes=toronto_data['Latitude'],
                                 longitudes=toronto_data['Longitude']
                                )
```

```
The Beaches
The Danforth West, Riverdale
The Beaches West, India Bazaar
Studio District
Lawrence Park
Davisville North
North Toronto West
Davisville
Moore Park, Summerhill East
Deer Park, Forest Hill SE, Rathnelly, South Hill, Summerhill West
Rosedale
Cabbagetown, St. James Town
Church and Wellesley
Harbourfront, Regent Park
Ryerson, Garden District
St. James Town
Berczy Park
Central Bay Street
Adelaide, King, Richmond
Harbourfront East, Toronto Islands, Union Station
Design Exchange, Toronto Dominion Centre
Commerce Court, Victoria Hotel
Roselawn
Forest Hill North, Forest Hill West
The Annex, North Midtown, Yorkville
Harbord, University of Toronto
Chinatown, Grange Park, Kensington Market
CN Tower, Bathurst Quay, Island airport, Harbourfront West, King and
Spadina, Railway Lands, South Niagara
Stn A PO Boxes 25 The Esplanade
First Canadian Place, Underground city
Christie
Dovercourt Village, Dufferin
Little Portugal, Trinity
Brockton, Exhibition Place, Parkdale Village
High Park, The Junction South
Parkdale, Roncesvalles
```

Runnymede, Swansea
Business Reply Mail Processing Centre 969 Eastern

In [229]:

```
print(toronto_venues.shape)
toronto_venues.head()
```

```
(1699, 7)
```

Out[229]:

	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue Latitude	Venue Longitude	Cat
0	The Beaches	43.676357	-79.293031	The Big Carrot Natural Food Market	43.678879	-79.297734	Health
1	The Beaches	43.676357	-79.293031	Grover Pub and Grub	43.679181	-79.297215	
2	The Beaches	43.676357	-79.293031	Starbucks	43.678798	-79.298045	Coffee
3	The Beaches	43.676357	-79.293031	Upper Beaches	43.680563	-79.292869	Neighbo
4	The Danforth West, Riverdale	43.679557	-79.352188	Pantheon	43.677621	-79.351434	Rest

In [230]:

```
toronto_venues.groupby('Neighbourhood').count()
```

Out[230]:

Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Adelaide, King, Richmond	100	100	100	100	100	100
Berczy Park	57	57	57	57	57	57
Brockton, Exhibition Place, Parkdale Village	19	19	19	19	19	19
Business Reply Mail Processing Centre 969 Eastern	18	18	18	18	18	18
CN Tower, Bathurst Quay, Island airport, Harbourfront West, King and Spadina, Railway Lands, South Niagara	13	13	13	13	13	13

Cabbagetown, St. James Town	43	43	43	43	43	43
Central Bay Street	81	81	81	81	81	81
Chinatown, Grange Park, Kensington Market	100	100	100	100	100	100
Christie	16	16	16	16	16	16
Church and Wellesley	86	86	86	86	86	86
Commerce Court, Victoria Hotel	100	100	100	100	100	100
Davisville	38	38	38	38	38	38
Davisville North	9	9	9	9	9	9
Deer Park, Forest Hill SE, Rathnelly, South Hill, Summerhill West	15	15	15	15	15	15
Design Exchange, Toronto Dominion Centre	100	100	100	100	100	100
Dovercourt Village, Dufferin	20	20	20	20	20	20
First Canadian Place, Underground city	100	100	100	100	100	100
Forest Hill North, Forest Hill West	4	4	4	4	4	4
Harbord, University of Toronto	35	35	35	35	35	35
Harbourfront East, Toronto Islands, Union Station	100	100	100	100	100	100
Harbourfront, Regent Park	47	47	47	47	47	47
High Park, The Junction South	23	23	23	23	23	23
Lawrence Park	4	4	4	4	4	4
Little Portugal, Trinity	63	63	63	63	63	63
Moore Park, Summerhill East	3	3	3	3	3	3
North Toronto West	21	21	21	21	21	21
Parkdale, Roncesvalles	16	16	16	16	16	16
Rosedale	4	4	4	4	4	4
Roselawn	3	3	3	3	3	3

Runnymede, Swansea	38	38	38	38	38	38
Ryerson, Garden District	100	100	100	100	100	100
St. James Town	100	100	100	100	100	100
Stn A PO Boxes 25 The Esplanade	94	94	94	94	94	94
Studio District	40	40	40	40	40	40
The Annex, North Midtown, Yorkville	24	24	24	24	24	24
The Beaches	4	4	4	4	4	4
The Beaches West, India Bazaar	19	19	19	19	19	19
The Danforth West, Riverdale	42	42	42	42	42	42

In [231]:

```
print('There are {} uniques categories.'.format(len(toronto_venues['Venue Categor

# Analyze Each Neighbourhood
# one hot encoding
toronto_onehot = pd.get_dummies(toronto_venues[['Venue Category']], prefix="", pr


# add neighbourhood column back to dataframe
toronto_onehot['Neighbourhood'] = toronto_venues['Neighbourhood']

# move neighbourhood column to the first column
fixed_columns = [toronto_onehot.columns[-1]] + list(toronto_onehot.columns[:-1])
toronto_onehot = toronto_onehot[fixed_columns]
```

```
There are 237 uniques categories.
```

In [232]:

```
toronto_onehot.head()
toronto_onehot.shape
```

Out[232]:

```
(1699, 238)
```

In [233]:

```
toronto_grouped = toronto_onehot.groupby('Neighbourhood').mean().reset_index()
toronto_grouped
toronto_grouped.shape
```

Out[233]:

```
(38, 238)
```

In [214]:

```
num_top_venues = 5

for hood in toronto_grouped['Neighbourhood']:
    print("----"+hood+"----")
    temp = toronto_grouped[toronto_grouped['Neighbourhood'] == hood].T.reset_inde
    temp.columns = ['venue','freq']
    temp = temp.iloc[1:]
    temp['freq'] = temp['freq'].astype(float)
    temp = temp.round({'freq': 2})
    print(temp.sort_values('freq', ascending=False).reset_index(drop=True).head(n
    print('\n')
```

```
----Adelaide, King, Richmond----
                venue  freq
0         Coffee Shop  0.06
1                Café  0.05
2      Thai Restaurant  0.04
3           Steakhouse  0.04
4  American Restaurant  0.04


----Berczy Park----
                venue  freq
0         Coffee Shop  0.07
1        Cocktail Bar  0.05
2          Restaurant  0.05
3  Italian Restaurant  0.04
4                Café  0.04


----Brockton, Exhibition Place, Parkdale Village----
```

In [234]:

```
def return_most_common_venues(row, num_top_venues):
    row_categories = row.iloc[1:]
    row_categories_sorted = row_categories.sort_values(ascending=False)

    return row_categories_sorted.index.values[0:num_top_venues]

num_top_venues = 10

indicators = ['st', 'nd', 'rd']

# create columns according to number of top venues
columns = ['Neighbourhood']
for ind in np.arange(num_top_venues):
    try:
        columns.append('{}{} Most Common Venue'.format(ind+1, indicators[ind]))
    except:
        columns.append('{}th Most Common Venue'.format(ind+1))

# create a new dataframe
neighborhoods_venues_sorted = pd.DataFrame(columns=columns)
neighborhoods_venues_sorted['Neighbourhood'] = toronto_grouped['Neighbourhood']

for ind in np.arange(toronto_grouped.shape[0]):
    neighborhoods_venues_sorted.iloc[ind, 1:] = return_most_common_venues(toronto

neighborhoods_venues_sorted.head()
```

Out[234]:

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th M Com Ve
0	Adelaide, King, Richmond	Coffee Shop	Café	Thai Restaurant	American Restaurant	Steakhouse	Clothing Store	A Restau
1	Berczy Park	Coffee Shop	Restaurant	Cocktail Bar	Café	Cheese Shop	Bakery	Steakh
2	Brockton, Exhibition Place, Parkdale Village	Café	Breakfast Spot	Coffee Shop	Furniture / Home Store	Performing Arts Venue	Climbing Gym	It Restau
3	Business Reply Mail Processing Centre 969 Eastern	Yoga Studio	Recording Studio	Smoke Shop	Skate Park	Brewery	Burrito Place	But
4	CN Tower, Bathurst Quay, Island airport, Harbo...	Airport Lounge	Airport Service	Airport Terminal	Boat or Ferry	Boutique	Airport	Ai Food C

In [235]:

```
# Examine Clusters
# set number of clusters
kclusters = 5

toronto_grouped_clustering = toronto_grouped.drop('Neighbourhood', 1)

# run k-means clustering
kmeans = KMeans(n_clusters=kclusters, random_state=0).fit(toronto_grouped_cluster

# check cluster labels generated for each row in the dataframe
kmeans.labels_[0:10]
```

Out[235]:

```
array([2, 2, 2, 2, 2, 2, 2, 2, 2, 2], dtype=int32)
```

In [236]:

```
# add clustering labels
neighborhoods_venues_sorted.insert(0, 'Cluster Labels', kmeans.labels_)

toronto_merged = toronto_data

# merge toronto_grouped with toronto_data to add latitude/longitude for each neig
toronto_merged = toronto_merged.join(neighborhoods_venues_sorted.set_index('Neigh

toronto_merged.head() # check the last columns!
```

```
# create map
map_clusters = folium.Map(location=[latitude, longitude], zoom_start=11)

# set color scheme for the clusters
x = np.arange(kclusters)
ys = [i + x + (i*x)**2 for i in range(kclusters)]
colors_array = cm.rainbow(np.linspace(0, 1, len(ys)))
rainbow = [colors.rgb2hex(i) for i in colors_array]

# add markers to the map
markers_colors = []
for lat, lon, poi, cluster in zip(toronto_merged['Latitude'], toronto_merged['Lon
    label = folium.Popup(str(poi) + ' Cluster ' + str(cluster), parse_html=True)
    folium.CircleMarker(
        [lat, lon],
        radius=5,
        popup=label,
        color=rainbow[cluster-1],
        fill=True,
        fill_color=rainbow[cluster-1],
        fill_opacity=0.7).add_to(map_clusters)

map_clusters
```

Out[236]:

In [237]:

```
toronto_merged.loc[toronto_merged['Cluster Labels'] == 0, toronto_merged.columns[
```

Out[237]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Co
50	Downtown Toronto	0	Park	Playground	Trail	Diner	Fast Food Restaurant	Farmers Market	Rest

In [238]:

```
toronto_merged.loc[toronto_merged['Cluster Labels'] == 1, toronto_merged.columns[
```

Out[238]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Cor
48	Central Toronto	1	Playground	Gym	Restaurant	Diner	Fast Food Restaurant	Farmers Market	Resta

In [241]:

```
toronto_merged.loc[toronto_merged['Cluster Labels'] == 2, toronto_merged.columns[
```

Out[241]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Com
37	East Toronto	2	Neighborhood	Health Food	Coffee Shop	Pub	Yoga Studio	Far M

				Store					
41	East Toronto	2	Greek Restaurant	Coffee Shop	Ice Cream Shop	Bookstore	Italian Restaurant	S	
42	East Toronto	2	Sandwich Place	Liquor Store	Italian Restaurant	Pet Store	Gym	Pizza	
43	East Toronto	2	Café	Coffee Shop	Italian Restaurant	Bakery	American Restaurant	S	
44	Central Toronto	2	Park	Swim School	Dim Sum Restaurant	Bus Line	Yoga Studio	Dog	
45	Central Toronto	2	Sandwich Place	Burger Joint	Breakfast Spot	Gym	Grocery Store		
46	Central Toronto	2	Coffee Shop	Clothing Store	Sporting Goods Shop	Yoga Studio	Furniture / Home Store	Pet	
47	Central Toronto	2	Sandwich Place	Dessert Shop	Pizza Place	Sushi Restaurant	Restaurant	I Resta	
49	Central Toronto	2	Convenience Store	Pub	Coffee Shop	Pizza Place	Sports Bar	Resta	
51	Downtown Toronto	2	Coffee Shop	Restaurant	Bakery	Italian Restaurant	Café		
52	Downtown Toronto	2	Japanese Restaurant	Coffee Shop	Sushi Restaurant	Gay Bar	Restaurant	B	
53	Downtown Toronto	2	Coffee Shop	Café	Pub	Park	Bakery	Brea	
54	Downtown Toronto	2	Coffee Shop	Clothing Store	Café	Middle Eastern Restaurant	Cosmetics Shop	Japa Resta	
55	Downtown Toronto	2	Coffee Shop	Restaurant	Hotel	Café	Clothing Store		
56	Downtown Toronto	2	Coffee Shop	Restaurant	Cocktail Bar	Café	Cheese Shop	B	
57	Downtown Toronto	2	Coffee Shop	Café	Italian Restaurant	Bar	Burger Joint		
58	Downtown Toronto	2	Coffee Shop	Café	Thai Restaurant	American Restaurant	Steakhouse	Clo	
59	Downtown Toronto	2	Coffee Shop	Aquarium	Hotel	Café	Pizza Place	S Lo	
60	Downtown Toronto	2	Coffee Shop	Café	Hotel	Restaurant	American Restaurant	Gastr	
61	Downtown Toronto	2	Coffee Shop	Café	Restaurant	Hotel	American Restaurant	Sea Resta	
65	Central Toronto	2	Coffee Shop	Café	Sandwich Place	Pizza Place	BBQ Joint	I Resta	
66	Downtown Toronto	2	Café	Coffee Shop	Bakery	Bookstore	Restaurant		
67	Downtown Toronto	2	Café	Bar	Vietnamese Restaurant	Vegetarian / Vegan Restaurant	Coffee Shop	B	
68	Downtown Toronto	2	Airport Lounge	Airport Service	Airport Terminal	Boat or Ferry	Boutique	A	

69	Downtown Toronto	2	Coffee Shop	Restaurant	Café	Cocktail Bar	Italian Restaurant	Sea Resta
70	Downtown Toronto	2	Coffee Shop	Café	Hotel	Restaurant	American Restaurant	Gastr
75	Downtown Toronto	2	Café	Grocery Store	Park	Convenience Store	Nightclub	Baby
76	West Toronto	2	Supermarket	Bakery	Pharmacy	Café	Discount Store	
77	West Toronto	2	Bar	Men's Store	Asian Restaurant	Coffee Shop	Cocktail Bar	Vietna Resta
78	West Toronto	2	Café	Breakfast Spot	Coffee Shop	Furniture / Home Store	Performing Arts Venue	Clin
82	West Toronto	2	Mexican Restaurant	Café	Flea Market	Thai Restaurant	Bakery	Ch
83	West Toronto	2	Breakfast Spot	Gift Shop	Bookstore	Burger Joint	Movie Theater	
84	West Toronto	2	Coffee Shop	Café	Pizza Place	Sushi Restaurant	Italian Restaurant	Phar
87	East Toronto	2	Yoga Studio	Recording Studio	Smoke Shop	Skate Park	Brewery	B

In [239]:

```
toronto_merged.loc[toronto_merged['Cluster Labels'] == 3, toronto_merged.columns[
```

Out[239]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Mo Comm Venu
63	Central Toronto	3	Home Service	Music Venue	Garden	Yoga Studio	Dog Run	Fast Food Restaurant	Farme Mark

In [240]:

```
toronto_merged.loc[toronto_merged['Cluster Labels'] == 4, toronto_merged.columns[
```

Out[240]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th M Comm Ve
64	Central Toronto	4	Mexican Restaurant	Trail	Sushi Restaurant	Jewelry Store	Yoga Studio	Dog Run	Fast F Restau

In [ ]:

In [10]:

In [11]:

Out[11]:

[

	Postcode	Borough	\
0	M1A	Not assigned	
1	M2A	Not assigned	
2	M3A	North York	
3	M4A	North York	
4	M5A	Downtown Toronto	
5	M5A	Downtown Toronto	
6	M6A	North York	
7	M6A	North York	
8	M7A	Queen's Park	
9	M8A	Not assigned	
10	M9A	Etobicoke	
11	M1B	Scarborough	
12	M1B	Scarborough	
13	M2B	Not assigned	
14	M3B	North York	
15	M4B	East York	
16	M4B	East York	

In [12]:

Out[12]:

	Postcode	Borough	Neighbourhood
0	M1A	Not assigned	Not assigned
1	M2A	Not assigned	Not assigned
2	M3A	North York	Parkwoods
3	M4A	North York	Victoria Village
4	M5A	Downtown Toronto	Harbourfront
5	M5A	Downtown Toronto	Regent Park
6	M6A	North York	Lawrence Heights
7	M6A	North York	Lawrence Manor
8	M7A	Queen's Park	Not assigned
9	M8A	Not assigned	Not assigned

In [13]:

Out[13]:

	Postcode	Borough	Neighbourhood
2	M3A	North York	Parkwoods
3	M4A	North York	Victoria Village
4	M5A	Downtown Toronto	Harbourfront
5	M5A	Downtown Toronto	Regent Park
6	M6A	North York	Lawrence Heights
7	M6A	North York	Lawrence Manor
8	M7A	Queen's Park	Not assigned
10	M9A	Etobicoke	Islington Avenue
11	M1B	Scarborough	Rouge
12	M1B	Scarborough	Malvern

In [14]:

Out[14]:

	Postcode	Borough	Neighbourhood
0	M1B	Scarborough	Rouge, Malvern
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union
2	M1E	Scarborough	Guildwood, Morningside, West Hill
3	M1G	Scarborough	Woburn
4	M1H	Scarborough	Cedarbrae
5	M1J	Scarborough	Scarborough Village
6	M1K	Scarborough	East Birchmount Park, Ionview, Kennedy Park
7	M1L	Scarborough	Clairlea, Golden Mile, Oakridge
8	M1M	Scarborough	Cliffcrest, Cliffside, Scarborough Village West
9	M1N	Scarborough	Birch Cliff, Cliffside West

In [15]:

Out[15]:

```
(103, 3)
```

In [16]:

```
    Postcode   Latitude  Longitude
0        M1B  43.806686 -79.194353
1        M1C  43.784535 -79.160497
2        M1E  43.763573 -79.188711
3        M1G  43.770992 -79.216917
4        M1H  43.773136 -79.239476
5        M1J  43.744734 -79.239476
6        M1K  43.727929 -79.262029
7        M1L  43.711112 -79.284577
8        M1M  43.716316 -79.239476
9        M1N  43.692657 -79.264848
10       M1P  43.757410 -79.273304
11       M1R  43.750072 -79.295849
12       M1S  43.794200 -79.262029
13       M1T  43.781638 -79.304302
14       M1V  43.815252 -79.284577
15       M1W  43.799525 -79.318389
16       M1X  43.836125 -79.205636
17       M2H  43.803762 -79.363452
```

In [57]:

In [62]:

Out[62]:

	Postcode	Borough	Neighbourhood	Latitude	Longitude
37	M4E	East Toronto	The Beaches	43.676357	-79.293031
41	M4K	East Toronto	The Danforth West, Riverdale	43.679557	-79.352188
42	M4L	East Toronto	The Beaches West, India Bazaar	43.668999	-79.315572
43	M4M	East Toronto	Studio District	43.659526	-79.340923
44	M4N	Central Toronto	Lawrence Park	43.728020	-79.388790
45	M4P	Central Toronto	Davisville North	43.712751	-79.390197
46	M4R	Central Toronto	North Toronto West	43.715383	-79.405678
47	M4S	Central Toronto	Davisville	43.704324	-79.388790
48	M4T	Central Toronto	Moore Park, Summerhill East	43.689574	-79.383160
49	M4V	Central Toronto	Deer Park, Forest Hill SE, Rathnelly, South	43.686412	-79.400049

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