PART 1

Imporyting required libraries

```
In [1]: import pandas as pd
import numpy as np
import requests
```

Installing required libraries for retriving and processing data from web

```
In [2]: !pip install beautifulsoup4
    from bs4 import BeautifulSoup
    !pip install lxml
```

Requirement already satisfied: beautifulsoup4 in /home/jupyterlab/cond a/envs/python/lib/python3.6/site-packages (4.9.1)
Requirement already satisfied: soupsieve>1.2 in /home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from beautifulsoup4) (2.0.1)
Requirement already satisfied: lxml in /home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (4.5.2)

```
In [3]: import numpy as np
import pandas
import seaborn # 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 to completed the Foursquare API lab
```

```
from geopy.geocoders import Nominatim # convert an address into latitud
        e and longitude values
        import requests # library to handle requests
        from pandas.io.json import json normalize # tranform JSON file into a p
        andas dataframe
        # 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 haven't completed the Foursquare API lab
        import folium # map rendering library
        print('Libraries imported.')
        Collecting package metadata (current repodata.json): done
        Solving environment: done
        ==> WARNING: A newer version of conda exists. <==
          current version: 4.8.3
          latest version: 4.8.4
        Please update conda by running
            $ conda update -n base -c defaults conda
        # All requested packages already installed.
        Libraries imported.
In [4]: wiki = 'https://en.wikipedia.org/wiki/List of postal codes of Canada:
```

```
M'
wiki_page = requests.get(wiki)

wiki_raw = pd.read_html(wiki_page.content, header = 0)[0]
df = wiki_raw[wiki_raw.District != 'Not assigned']
df.reset_index(inplace = True)
df.head()
```

Out[4]:

Neighbourhood	District	Postal Code	index	
Parkwoods	North York	МЗА	2	0
Victoria Village	North York	M4A	3	1
Regent Park, Harbourfront	Downtown Toronto	M5A	4	2
Lawrence Manor, Lawrence Heights	North York	M6A	5	3
Queen's Park, Ontario Provincial Government	Downtown Toronto	M7A	6	4

In [5]: df.groupby(['Postal Code']).first()

Out[5]:

	index	District	Neighbourhood
Postal Code			
M1B	9	Scarborough	Malvern, Rouge
M1C	18	Scarborough	Rouge Hill, Port Union, Highland Creek
M1E	27	Scarborough	Guildwood, Morningside, West Hill
M1G	36	Scarborough	Woburn
M1H	45	Scarborough	Cedarbrae
M1J	54	Scarborough	Scarborough Village
M1K	63	Scarborough	Kennedy Park, Ionview, East Birchmount Park
M1L	72	Scarborough	Golden Mile, Clairlea, Oakridge
M1M	81	Scarborough	Cliffside, Cliffcrest, Scarborough Village West
M1N	90	Scarborough	Birch Cliff, Cliffside West

	index	District	Neighbourhood
Postal Code			
M1P	99	Scarborough	Dorset Park, Wexford Heights, Scarborough Town
M1R	108	Scarborough	Wexford, Maryvale
M1S	117	Scarborough	Agincourt
M1T	126	Scarborough	Clarks Corners, Tam O'Shanter, Sullivan
M1V	135	Scarborough	Milliken, Agincourt North, Steeles East, L'Amo
M1W	144	Scarborough	Steeles West, L'Amoreaux West
M1X	153	Scarborough	Upper Rouge
M2H	46	North York	Hillcrest Village
M2J	55	North York	Fairview, Henry Farm, Oriole
M2K	64	North York	Bayview Village
M2L	73	North York	York Mills, Silver Hills
M2M	82	North York	Willowdale, Newtonbrook
M2N	91	North York	Willowdale, Willowdale East
M2P	100	North York	York Mills West
M2R	109	North York	Willowdale, Willowdale West
МЗА	2	North York	Parkwoods
МЗВ	11	North York	Don Mills
МЗС	20	North York	Don Mills
МЗН	47	North York	Bathurst Manor, Wilson Heights, Downsview North
M3J	56	North York	Northwood Park, York University
мзк	65	North York	Downsview
M3L	74	North York	Downsview
МЗМ	83	North York	Downsview
M3N	92	North York	Downsview

	index	District	Neighbourhood
Postal Code			
M4A	3	North York	Victoria Village
M4B	12	East York	Parkview Hill, Woodbine Gardens
M4C	21	East York	Woodbine Heights
M4E	30	East Toronto	The Beaches
M4G	39	East York	Leaside
M4H	48	East York	Thorncliffe Park
M4J	57	East York	East Toronto, Broadview North (Old East York)
M4K	66	East Toronto	The Danforth West, Riverdale
M4L	75	East Toronto India Bazaar, The Beache	
M4M	84	East Toronto	Studio District
M4N	93	Central Toronto	Lawrence Park
M4P	102	Central Toronto	Davisville North
M4R	111	Central Toronto	North Toronto West, Lawrence Park
M4S	120	Central Toronto	Davisville
M4T	129	Central Toronto	Moore Park, Summerhill East
M4V	138	Central Toronto	Summerhill West, Rathnelly, South Hill, Forest
M4W	147	Downtown Toronto	Rosedale
M4X	156	Downtown Toronto	St. James Town, Cabbagetown
M4Y	165	Downtown Toronto	Church and Wellesley
M5A	4	Downtown Toronto	Regent Park, Harbourfront
M5B	13	Downtown Toronto	Garden District, Ryerson
M5C	22	Downtown Toronto	St. James Town
M5E	31	Downtown Toronto	Berczy Park
M5G	40	Downtown Toronto	Central Bay Street

	index	District	Neighbourhood
Postal Code			
M5H	49	Downtown Toronto	Richmond, Adelaide, King
M5J	58	Downtown Toronto	Harbourfront East, Union Station, Toronto Islands
M5K	67	Downtown Toronto	Toronto Dominion Centre, Design Exchange
M5L	76	Downtown Toronto	Commerce Court, Victoria Hotel
M5M	85	North York	Bedford Park, Lawrence Manor East
M5N	94	Central Toronto	Roselawn
M5P	103	Central Toronto	Forest Hill North & West, Forest Hill Road Park
M5R	112	Central Toronto	The Annex, North Midtown, Yorkville
M5S	121	Downtown Toronto	University of Toronto, Harbord
M5T	130	Downtown Toronto	Kensington Market, Chinatown, Grange Park
M5V	139	Downtown Toronto	CN Tower, King and Spadina, Railway Lands, Har
M5W	148	Downtown Toronto	Stn A PO Boxes
M5X	157	Downtown Toronto	First Canadian Place, Underground city
M6A	5	North York	Lawrence Manor, Lawrence Heights
M6B	14	North York	Glencairn
M6C	23	York	Humewood-Cedarvale
M6E	32	York	Caledonia-Fairbanks
M6G	41	Downtown Toronto	Christie
М6Н	50	West Toronto	Dufferin, Dovercourt Village
M6J	59	West Toronto	Little Portugal, Trinity
M6K	68	West Toronto	Brockton, Parkdale Village, Exhibition Place
M6L	77	North York	North Park, Maple Leaf Park, Upwood Park
M6M	86	York	Del Ray, Mount Dennis, Keelsdale and Silverthorn
M6N	95	York	Runnymede, The Junction North

index	District	Neighbourhood	
104	West Toronto	High Park, The Junction South	
113	West Toronto	Parkdale, Roncesvalles	
122	West Toronto	Runnymede, Swansea	
6	Downtown Toronto	Queen's Park, Ontario Provincial Government	
114	Mississauga	Canada Post Gateway Processing Centre	
168	East Toronto	Business reply mail Processing Centre, South C	
142	Etobicoke	New Toronto, Mimico South, Humber Bay Shores	
151	Etobicoke	Alderwood, Long Branch	
160	Etobicoke	The Kingsway, Montgomery Road, Old Mill North	
169	Etobicoke	Old Mill South, King's Mill Park, Sunnylea, Hu	
178	Etobicoke	Mimico NW, The Queensway West, South of Bloor,	
8	Etobicoke	Islington Avenue, Humber Valley Village	
17	Etobicoke	West Deane Park, Princess Gardens, Martin Grov	
26	Etobicoke	Eringate, Bloordale Gardens, Old Burnhamthorpe	
80	North York	Humber Summit	
89	North York	Humberlea, Emery	
98	York	Weston	
107	Etobicoke	Westmount	
116	Etobicoke	Kingsview Village, St. Phillips, Martin Grove	
143	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest	
		Northwest, West Humber - Clairville	
	104 113 122 6 114 168 142 151 160 169 178 8 17 26 80 89 98 107 116 143	104 West Toronto 113 West Toronto 122 West Toronto 6 Downtown Toronto 114 Mississauga 168 East Toronto 142 Etobicoke 151 Etobicoke 160 Etobicoke 169 Etobicoke 178 Etobicoke 178 Etobicoke 8 Etobicoke 17 Etobicoke 98 North York 98 York 107 Etobicoke 116 Etobicoke	

In [6]: len(df['Postal Code'].unique())

Out[6]: 103

removing coloumns which contains "Not assigned"

In [7]: df[df.District!= 'Not assigned']

Out[7]:

	index	Postal Code	District	Neighbourhood	
0	2	МЗА	North York	Parkwoods	
1	3	M4A	North York	Victoria Village	
2	4	M5A	Downtown Toronto	Regent Park, Harbourfront	
3	5	M6A	North York	Lawrence Manor, Lawrence Heights	
4	6	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government	
5	8	M9A	Etobicoke	Islington Avenue, Humber Valley Village	
6	9	M1B	Scarborough	Malvern, Rouge	
7	11	МЗВ	North York	Don Mills	
8	12	M4B	East York	Parkview Hill, Woodbine Gardens	
9	13	M5B	Downtown Toronto	Garden District, Ryerson	
10	14	M6B	North York	Glencairn	
11	17	М9В	Etobicoke	West Deane Park, Princess Gardens, Martin Grov	
12	18	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek	
13	20	МЗС	North York	Don Mills	
14	21	M4C	East York	Woodbine Heights	
15	22	M5C	Downtown Toronto	St. James Town	
16	23	M6C	York	Humewood-Cedarvale	
17	26	M9C	Etobicoke	Eringate, Bloordale Gardens, Old Burnhamthorpe	
18	27	M1E	Scarborough	Guildwood, Morningside, West Hill	
19	30	M4E	East Toronto	The Beaches	
20	31	M5E	Downtown Toronto	Berczy Park	

	index	Postal Code	District	Neighbourhood	
21	32	M6E	York	Caledonia-Fairbanks	
22	36	M1G	Scarborough	Woburn	
23	39	M4G	East York	Leaside	
24	40	M5G	Downtown Toronto	Central Bay Street	
25	41	M6G	Downtown Toronto	Christie	
26	45	M1H	Scarborough	Cedarbrae	
27	46	M2H	North York	Hillcrest Village	
28	47	МЗН	North York	Bathurst Manor, Wilson Heights, Downsview North	
29	48	M4H	East York	Thorncliffe Park	
30	49	M5H	Downtown Toronto	Richmond, Adelaide, King	
31	50	М6Н	West Toronto	Dufferin, Dovercourt Village	
32	54	M1J	Scarborough	Scarborough Village	
33	55	M2J	North York	Fairview, Henry Farm, Oriole	
34	56	M3J	North York	Northwood Park, York University	
35	57	M4J	East York	East Toronto, Broadview North (Old East York)	
36	58	M5J	Downtown Toronto	Harbourfront East, Union Station, Toronto Islands	
37	59	M6J	West Toronto	Little Portugal, Trinity	
38	63	M1K	Scarborough	Kennedy Park, Ionview, East Birchmount Park	
39	64	M2K	North York	Bayview Village	
40	65	M3K	North York	Downsview	
41	66	M4K	East Toronto	The Danforth West, Riverdale	
42	67	M5K	Downtown Toronto	Toronto Dominion Centre, Design Exchange	
43	68	M6K	West Toronto	Brockton, Parkdale Village, Exhibition Place	
44	72	M1L	Scarborough	Golden Mile, Clairlea, Oakridge	
45	73	M2L	North York	York Mills, Silver Hills	

	index	Postal Code	District	Neighbourhood	
46	74	M3L	North York	Downsview	
47	75	M4L	East Toronto	India Bazaar, The Beaches West	
48	76	M5L	Downtown Toronto	Commerce Court, Victoria Hotel	
49	77	M6L	North York	North Park, Maple Leaf Park, Upwood Park	
50	80	M9L	North York	Humber Summit	
51	81	M1M	Scarborough	Cliffside, Cliffcrest, Scarborough Village West	
52	82	M2M	North York	Willowdale, Newtonbrook	
53	83	МЗМ	North York	Downsview	
54	84	M4M	East Toronto	Studio District	
55	85	M5M	North York	Bedford Park, Lawrence Manor East	
56	86	M6M	York	Del Ray, Mount Dennis, Keelsdale and Silverthorn	
57	89	М9М	North York	Humberlea, Emery	
58	90	M1N	Scarborough	Birch Cliff, Cliffside West	
59	91	M2N	North York	Willowdale, Willowdale East	
60	92	M3N	North York	Downsview	
61	93	M4N	Central Toronto	Lawrence Park	
62	94	M5N	Central Toronto	Roselawn	
63	95	M6N	York	Runnymede, The Junction North	
64	98	M9N	York	Weston	
65	99	M1P	Scarborough	Dorset Park, Wexford Heights, Scarborough Town	
66	100	M2P	North York	York Mills West	
67	102	M4P	Central Toronto	Davisville North	
68	103	M5P	Central Toronto	Forest Hill North & West, Forest Hill Road Park	
69	104	M6P	West Toronto	High Park, The Junction South	
70	107	M9P	Etobicoke	Westmount	

	index	Postal Code	District	Neighbourhood	
71	108	M1R	Scarborough	Wexford, Maryvale	
72	109	M2R	North York	Willowdale, Willowdale West	
73	111	M4R	Central Toronto	North Toronto West, Lawrence Park	
74	112	M5R	Central Toronto	The Annex, North Midtown, Yorkville	
75	113	M6R	West Toronto	Parkdale, Roncesvalles	
76	114	M7R	Mississauga	Canada Post Gateway Processing Centre	
77	116	M9R	Etobicoke	Kingsview Village, St. Phillips, Martin Grove	
78	117	M1S	Scarborough	Agincourt	
79	120	M4S	Central Toronto	Davisville	
80	121	M5S	Downtown Toronto	University of Toronto, Harbord	
81	122	M6S	West Toronto	Runnymede, Swansea	
82	126	M1T	Scarborough	Clarks Corners, Tam O'Shanter, Sullivan	
83	129	M4T	Central Toronto	Moore Park, Summerhill East	
84	130	M5T	Downtown Toronto	Kensington Market, Chinatown, Grange Park	
85	135	M1V	Scarborough	Milliken, Agincourt North, Steeles East, L'Amo	
86	138	M4V	Central Toronto	Summerhill West, Rathnelly, South Hill, Forest	
87	139	M5V	Downtown Toronto	CN Tower, King and Spadina, Railway Lands, Har	
88	142	M8V	Etobicoke	New Toronto, Mimico South, Humber Bay Shores	
89	143	M9V	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest	
90	144	M1W	Scarborough	Steeles West, L'Amoreaux West	
91	147	M4W	Downtown Toronto	Rosedale	
92	148	M5W	Downtown Toronto	Stn A PO Boxes	
93	151	M8W	Etobicoke	Alderwood, Long Branch	
94	152	M9W	Etobicoke	Northwest, West Humber - Clairville	
95	153	M1X	Scarborough	Upper Rouge	

	index	Postal Code	District	Neighbourhood
96	156	M4X	Downtown Toronto	St. James Town, Cabbagetown
97	157	M5X	Downtown Toronto First Canadian Place, Undergroun	
98	160	M8X	Etobicoke The Kingsway, Montgomery Road, Old Mill No	
99	165	M4Y	Downtown Toronto	Church and Wellesley
100	168	M7Y	East Toronto Business reply mail Processing Centre, South	
101	169	M8Y	Etobicoke Old Mill South, King's Mill Park, Sunnylea, H	
102	178	M8Z	Etobicoke	Mimico NW, The Queensway West, South of Bloor,

```
In []:
In [8]: df.shape
Out[8]: (103, 4)
In []:
```

PART 2

In [9]: pip install geocoder

Requirement already satisfied: geocoder in /home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (1.38.1)

Requirement already satisfied: ratelim in /home/jupyterlab/conda/envs/p ython/lib/python3.6/site-packages (from geocoder) (0.1.6)

Requirement already satisfied: six in /home/jupyterlab/conda/envs/pytho n/lib/python3.6/site-packages (from geocoder) (1.15.0)

Requirement already satisfied: future in /home/jupyterlab/conda/envs/py thon/lib/python3.6/site-packages (from geocoder) (0.18.2)

Requirement already satisfied: click in /home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from geocoder) (7.1.2)

Requirement already satisfied: requests in /home/jupyterlab/conda/envs/

```
python/lib/python3.6/site-packages (from geocoder) (2.24.0)
         Requirement already satisfied: decorator in /home/jupyterlab/conda/env
         s/python/lib/python3.6/site-packages (from ratelim->geocoder) (4.4.2)
         Requirement already satisfied: idna<3,>=2.5 in /home/jupyterlab/conda/e
         nvs/python/lib/python3.6/site-packages (from requests->geocoder) (2.10)
         Requirement already satisfied: certifi>=2017.4.17 in /home/jupyterlab/c
         onda/envs/python/lib/python3.6/site-packages (from requests->geocoder)
         (2020,6,20)
         Reguirement already satisfied: urllib3!=1.25.0,!=1.25.1,<1.26,>=1.21.1
         in /home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
         requests->deocoder) (1.25.10)
         Requirement already satisfied: chardet<4,>=3.0.2 in /home/jupyterlab/co
         nda/envs/python/lib/python3.6/site-packages (from requests->geocoder)
         (3.0.4)
         Note: you may need to restart the kernel to use updated packages.
In [10]: import geocoder
In [11]: url = 'http://cocl.us/Geospatial data'
In [12]: df geo = pd.read csv(url)
         df geo.head()
            Postal Code
                       Latitude Longitude
          0
                  M1B 43.806686 -79.194353
          1
                  M1C 43.784535 -79.160497
                  M1E 43.763573 -79.188711
          3
                  M1G 43.770992 -79.216917
                  M1H 43.773136 -79.239476
In [13]: df = pd.concat([df,df geo], axis=1)
         df.head()
```

df

df = df.loc[:,~df.columns.duplicated()]

Out[12]:

df.drop('Postal Code',axis = 1, inplace = True)
df

Out[13]:

1 3 North York Victoria Village 43.784535 -79.160497 2 4 Downtown Toronto Regent Park, Harbourfront 43.763573 -79.188717 3 5 North York Lawrence Manor, Lawrence Heights 43.770992 -79.216917 4 6 Downtown Toronto Queen's Park, Ontario Provincial Government 43.773136 -79.239476 5 8 Etobicoke Islington Avenue, Humber Valley Village 43.744734 -79.239476 6 9 Scarborough Malvern, Rouge 43.727929 -79.262029 7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264848 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295845		index	District	Neighbourhood	Latitude	Longitude
2 4 Downtown Toronto Regent Park, Harbourfront 43.763573 -79.18871 3 5 North York Lawrence Manor, Lawrence Heights 43.770992 -79.216917 4 6 Downtown Toronto Queen's Park, Ontario Provincial Government 43.773136 -79.239476 5 8 Etobicoke Islington Avenue, Humber Valley Village 43.744734 -79.239476 6 9 Scarborough Malvern, Rouge 43.727929 -79.262026 7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264846 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295845 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.781638	0	2	North York	Parkwoods	43.806686	-79.194353
2 4 Toronto Regent Park, Harbourfront 43.7635/3 -79.18871 3 5 North York Lawrence Manor, Lawrence Heights 43.770992 -79.216917 4 6 Downtown Toronto Queen's Park, Ontario Provincial Government 43.773136 -79.239476 5 8 Etobicoke Islington Avenue, Humber Valley Village 43.744734 -79.239476 6 9 Scarborough Malvern, Rouge 43.727929 -79.262029 7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264846 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.781638 -79	1	3	North York	Victoria Village	43.784535	-79.160497
4 6 Downtown Toronto Queen's Park, Ontario Provincial Government 43.773136 -79.239476 5 8 Etobicoke Islington Avenue, Humber Valley Village 43.744734 -79.239476 6 9 Scarborough Malvern, Rouge 43.727929 -79.262029 7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264846 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295845 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	2	4		Regent Park, Harbourfront	43.763573	-79.188711
4 6 Toronto Queen's Park, Ontario Provincial Government 43.773136 -79.239476 5 8 Etobicoke Islington Avenue, Humber Valley Village 43.744734 -79.239476 6 9 Scarborough Malvern, Rouge 43.727929 -79.262028 7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264846 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	3	5	North York	Lawrence Manor, Lawrence Heights	43.770992	-79.216917
6 9 Scarborough Malvern, Rouge 43.727929 -79.262029 7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264848 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	4	6		Queen's Park, Ontario Provincial Government	43.773136	-79.239476
7 11 North York Don Mills 43.711112 -79.284577 8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264848 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	5	8	Etobicoke	Islington Avenue, Humber Valley Village	43.744734	-79.239476
8 12 East York Parkview Hill, Woodbine Gardens 43.716316 -79.239476 9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264848 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	6	9	Scarborough	Malvern, Rouge	43.727929	-79.262029
9 13 Downtown Toronto Garden District, Ryerson 43.692657 -79.264848 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	7	11	North York	Don Mills	43.711112	-79.284577
13 Toronto Garden District, Ryerson 43.692657 -79.264848 10 14 North York Glencairn 43.757410 -79.273304 11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	8	12	East York	Parkview Hill, Woodbine Gardens	43.716316	-79.239476
11 17 Etobicoke West Deane Park, Princess Gardens, Martin Grov 43.750072 -79.295849 12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	9	13		Garden District, Ryerson	43.692657	-79.264848
12 18 Scarborough Rouge Hill, Port Union, Highland Creek 43.794200 -79.262029 13 20 North York Don Mills 43.781638 -79.304302	10	14	North York	Glencairn	43.757410	-79.273304
13 20 North York Don Mills 43.781638 -79.304302	11	17	Etobicoke		43.750072	-79.295849
	12	18	Scarborough	Rouge Hill, Port Union, Highland Creek	43.794200	-79.262029
14 21 East York Woodbine Heights 43.815252 -79.284577	13	20	North York	Don Mills	43.781638	-79.304302
	14	21	East York	Woodbine Heights	43.815252	-79.284577
15 22 Downtown St. James Town 43.799525 -79.318389	15	22		St. James Town	43.799525	-79.318389
16 23 York Humewood-Cedarvale 43.836125 -79.205636	16	23	York	Humewood-Cedarvale	43.836125	-79.205636
17 26 Etobicoke Eringate, Bloordale Gardens, Old Burnhamthorpe 43.803762 -79.363452	17	26	Etobicoke	-	43.803762	-79.363452
18 27 Scarborough Guildwood, Morningside, West Hill 43.778517 -79.346556	18	27	Scarborough	Guildwood, Morningside, West Hill	43.778517	-79.346556

	index	District	Neighbourhood	Latitude	Longitude
19	30	East Toronto	The Beaches	43.786947	-79.385975
20	31	Downtown Toronto	Berczy Park	43.757490	-79.374714
21	32	York	Caledonia-Fairbanks	43.789053	-79.408493
22	36	Scarborough	Woburn	43.770120	-79.408493
23	39	East York	Leaside	43.752758	-79.400049
24	40	Downtown Toronto	Central Bay Street	43.782736	-79.442259
25	41	Downtown Toronto	Christie	43.753259	-79.329656
26	45	Scarborough	Cedarbrae	43.745906	-79.352188
27	46	North York	Hillcrest Village	43.725900	-79.340923
28	47	North York	Bathurst Manor, Wilson Heights, Downsview North	43.754328	-79.442259
29	48	East York	Thorncliffe Park	43.767980	-79.487262
30	49	Downtown Toronto	Richmond, Adelaide, King	43.737473	-79.464763
31	50	West Toronto	Dufferin, Dovercourt Village	43.739015	-79.506944
32	54	Scarborough	Scarborough Village	43.728496	-79.495697
33	55	North York	Fairview, Henry Farm, Oriole	43.761631	-79.520999
34	56	North York	Northwood Park, York University	43.725882	-79.315572
35	57	East York	East Toronto, Broadview North (Old East York)	43.706397	-79.309937
36	58	Downtown Toronto	Harbourfront East, Union Station, Toronto Islands	43.695344	-79.318389
37	59	West Toronto	Little Portugal, Trinity	43.676357	-79.293031
38	63	Scarborough	Kennedy Park, Ionview, East Birchmount Park	43.709060	-79.363452
39	64	North York	Bayview Village	43.705369	-79.349372

	index	District	Neighbourhood	Latitude	Longitude
40	65	North York	Downsview	43.685347	-79.338106
41	66	East Toronto	The Danforth West, Riverdale	43.679557	-79.352188
42	67	Downtown Toronto	Toronto Dominion Centre, Design Exchange	43.668999	-79.315572
43	68	West Toronto	Brockton, Parkdale Village, Exhibition Place	43.659526	-79.340923
44	72	Scarborough	Golden Mile, Clairlea, Oakridge	43.728020	-79.388790
45	73	North York	York Mills, Silver Hills	43.712751	-79.390197
46	74	North York	Downsview	43.715383	-79.405678
47	75	East Toronto	India Bazaar, The Beaches West	43.704324	-79.388790
48	76	Downtown Toronto	Commerce Court, Victoria Hotel	43.689574	-79.383160
49	77	North York	North Park, Maple Leaf Park, Upwood Park	43.686412	-79.400049
50	80	North York	Humber Summit	43.679563	-79.377529
51	81	Scarborough	Cliffside, Cliffcrest, Scarborough Village West	43.667967	-79.367675
52	82	North York	Willowdale, Newtonbrook	43.665860	-79.383160
53	83	North York	Downsview	43.654260	-79.360636
54	84	East Toronto	Studio District	43.657162	-79.378937
55	85	North York	Bedford Park, Lawrence Manor East	43.651494	-79.375418
56	86	York	Del Ray, Mount Dennis, Keelsdale and Silverthorn	43.644771	-79.373306
57	89	North York	Humberlea, Emery	43.657952	-79.387383
58	90	Scarborough	Birch Cliff, Cliffside West	43.650571	-79.384568
59	91	North York	Willowdale, Willowdale East	43.640816	-79.381752
60	92	North York	Downsview	43.647177	-79.381576
61	93	Central Toronto	Lawrence Park	43.648198	-79.379817
62	94	Central Toronto	Roselawn	43.733283	-79.419750

	index	District	Neighbourhood	Latitude	Longitude
63	95	York	Runnymede, The Junction North	43.711695	-79.416936
64	98	York	Weston	43.696948	-79.411307
65	99	Scarborough	Dorset Park, Wexford Heights, Scarborough Town	43.672710	-79.405678
66	100	North York	York Mills West	43.662696	-79.400049
67	102	Central Toronto	Davisville North	43.653206	-79.400049
68	103	Central Toronto	Forest Hill North & West, Forest Hill Road Park	43.628947	-79.394420
69	104	West Toronto	High Park, The Junction South	43.646435	-79.374846
70	107	Etobicoke	Westmount	43.648429	-79.382280
71	108	Scarborough	Wexford, Maryvale	43.718518	-79.464763
72	109	North York	Willowdale, Willowdale West	43.709577	-79.445073
73	111	Central Toronto	North Toronto West, Lawrence Park	43.693781	-79.428191
74	112	Central Toronto	The Annex, North Midtown, Yorkville	43.689026	-79.453512
75	113	West Toronto	Parkdale, Roncesvalles	43.669542	-79.422564
76	114	Mississauga	Canada Post Gateway Processing Centre	43.669005	-79.442259
77	116	Etobicoke	Kingsview Village, St. Phillips, Martin Grove	43.647927	-79.419750
78	117	Scarborough	Agincourt	43.636847	-79.428191
79	120	Central Toronto	Davisville	43.713756	-79.490074
80	121	Downtown Toronto	University of Toronto, Harbord	43.691116	-79.476013
81	122	West Toronto	Runnymede, Swansea	43.673185	-79.487262
82	126	Scarborough	Clarks Corners, Tam O'Shanter, Sullivan	43.661608	-79.464763
83	129	Central Toronto	Moore Park, Summerhill East	43.648960	-79.456325
84	130	Downtown Toronto	Kensington Market, Chinatown, Grange Park	43.651571	-79.484450
85	135	Scarborough	Milliken, Agincourt North, Steeles East, L'Amo	43.662301	-79.389494

	index	District	Neighbourhood	Latitude	Longitude
86	138	Central Toronto	Summerhill West, Rathnelly, South Hill, Forest	43.636966	-79.615819
87	139	Downtown Toronto	CN Tower, King and Spadina, Railway Lands, Har	43.662744	-79.321558
88	142	Etobicoke	New Toronto, Mimico South, Humber Bay Shores	43.605647	-79.501321
89	143	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest	43.602414	-79.543484
90	144	Scarborough	Steeles West, L'Amoreaux West	43.653654	-79.506944
91	147	Downtown Toronto	Rosedale	43.636258	-79.498509
92	148	Downtown Toronto	Stn A PO Boxes	43.628841	-79.520999
93	151	Etobicoke	Alderwood, Long Branch	43.667856	-79.532242
94	152	Etobicoke	Northwest, West Humber - Clairville	43.650943	-79.554724
95	153	Scarborough	Upper Rouge	43.643515	-79.577201
96	156	Downtown Toronto	St. James Town, Cabbagetown	43.756303	-79.565963
97	157	Downtown Toronto	First Canadian Place, Underground city	43.724766	-79.532242
98	160	Etobicoke	The Kingsway, Montgomery Road, Old Mill North	43.706876	-79.518188
99	165	Downtown Toronto	Church and Wellesley	43.696319	-79.532242
100	168	East Toronto	Business reply mail Processing Centre, South C	43.688905	-79.554724
101	169	Etobicoke	Old Mill South, King's Mill Park, Sunnylea, Hu	43.739416	-79.588437
102	178	Etobicoke	Mimico NW, The Queensway West, South of Bloor,	43.706748	-79.594054

In [14]: df.shape

Out[14]: (103, 5)

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