This notebook will be mainly used for the capstone project offered by Coursera.

In [42]:
```python
import numpy as np
import pandas as pd
print("Hello Capstone Project Course!")
```

Hello Capstone Project Course!

In [43]:
```python
import urllib.request
url="https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M"
page = urllib.request.urlopen(url)
from bs4 import BeautifulSoup
soup = BeautifulSoup(page, "lxml")
all_tables=soup.find_all("table")
```

In [44]:
```python
A=[]
B=[]
C=[]
for row in right_table.findAll('tr'):
    cells=row.findAll('td')
    if len(cells)==3:
        A.append(cells[0].find(text=True).rstrip())

        B.append(cells[1].find(text=True).rstrip())
        C.append(cells[2].find(text=True).rstrip())
```

In [86]:
```python
data=pd.DataFrame(A,columns=['Postal Code'])
data['Borough']=B
data['Neighbourhood']=C
df=data.copy()
df['Borough'].replace(to_replace = "Not assigned" , value = np.nan,inplace=True)
df.dropna(axis=0,inplace=True)
df.reset_index(inplace = True)
df_post=df.groupby("Postal Code",as_index=False).agg(lambda x:','.join(set(x)))
df_post
```

Out[86]:

	Postal Code	Borough	Neighbourhood
0	M1B	Scarborough	Malvern, Rouge
1	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek
2	M1E	Scarborough	Guildwood, Morningside, West Hill
3	M1G	Scarborough	Woburn
4	M1H	Scarborough	Cedarbrae
...	...	...	...
98	M9N	York	Weston
99	M9P	Etobicoke	Westmount
100	M9R	Etobicoke	Kingsview Village, St. Phillips, Martin Grove ...
101	M9V	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest...
102	M9W	Etobicoke	Northwest, West Humber - Clairville

103 rows × 3 columns

GETTING LATITUDE AND LONGITUDE FOR CORRESPONDING POSTAL CODES

```
In [81]: location=pd.read_csv("https://cocl.us/Geospatial_data")
         location
```

Out[81]:

	Postal Code	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
...	...	...	...
98	M9N	43.706876	-79.518188
99	M9P	43.696319	-79.532242
100	M9R	43.688905	-79.554724
101	M9V	43.739416	-79.588437
102	M9W	43.706748	-79.594054

103 rows × 3 columns

```
In [87]: df_post["latitude"]=location['Latitude'].values
         df_post["longitude"]=location['Longitude'].values
         df_post
```

Out[87]:

	Postal Code	Borough	Neighbourhood	latitude	longitude
0	M1B	Scarborough	Malvern, Rouge	43.806686	-79.194353
1	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711
3	M1G	Scarborough	Woburn	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476
...	...	...	...	...	...
98	M9N	York	Weston	43.706876	-79.518188
99	M9P	Etobicoke	Westmount	43.696319	-79.532242
100	M9R	Etobicoke	Kingsview Village, St. Phillips, Martin Grove ...	43.688905	-79.554724
101	M9V	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest...	43.739416	-79.588437
102	M9W	Etobicoke	Northwest, West Humber - Clairville	43.706748	-79.594054

103 rows × 5 columns

In [ ]: