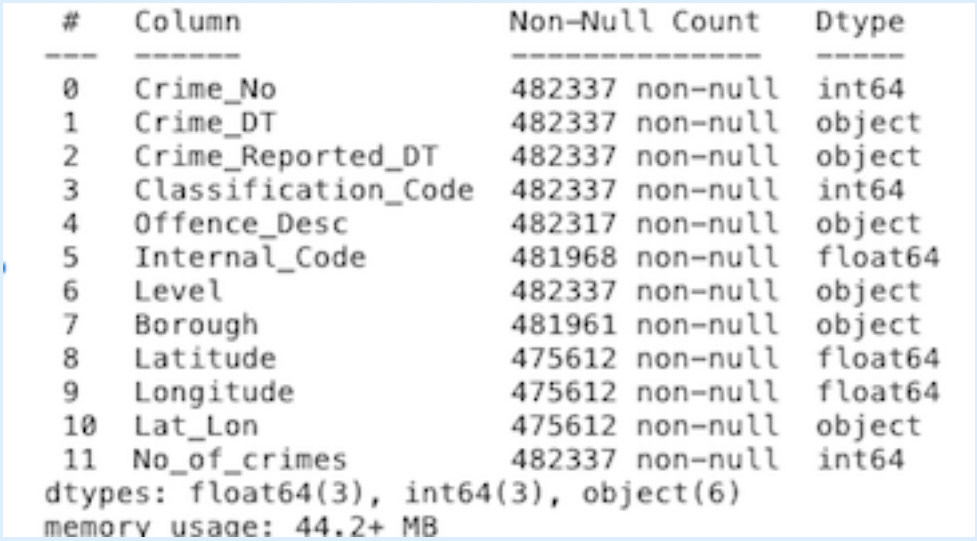
2. Data Description

2.1 Sources

The data for this project has been gathered from three main sources.
NYC crime data has been collected from the following link.

https://data.cityofnewyork.us/Public-Safety/NYPD-Complaint-Data-Historic/qgea-i56i

The data has then been downloaded and uploaded on the Jupyter notebook. A preview of the derived information can be noticed in Fig(a).



```
 #   Column                Non-Null Count   Dtype
---  ------                --------------   -----
 0   Crime_No              482337 non-null  int64
 1   Crime_DT              482337 non-null  object
 2   Crime_Reported_DT     482337 non-null  object
 3   Classification_Code   482337 non-null  int64
 4   Offence_Desc          482317 non-null  object
 5   Internal_Code         481968 non-null  float64
 6   Level                 482337 non-null  object
 7   Borough               481961 non-null  object
 8   Latitude              475612 non-null  float64
 9   Longitude             475612 non-null  float64
 10  Lat_Lon               475612 non-null  object
 11  No_of_crimes          482337 non-null  int64
dtypes: float64(3), int64(3), object(6)
memory usage: 44.2+ MB
```

Fig: (a)

Subsequently, data is scrapped from the webpage at the link https://www.citypopulation.de/en/usa/newyorkcity/. The dataset included data related to the population within NYC boroughs. A preview of such information is available below, Fig (b).

```
Data columns (total 7 columns):
 #   Column                          Non-Null Count  Dtype
---  ------                          --------------  -----
 0   Name                            6 non-null      object
 1   Status                          6 non-null      object
 2   PopulationCensus1990-04-01      6 non-null      int64
 3   PopulationCensus2000-04-01      6 non-null      int64
 4   PopulationCensus2010-04-01      6 non-null      int64
 5   PopulationEstimate2019-07-01    6 non-null      int64
 6   Unnamed: 6                      5 non-null      object
dtypes: int64(4), object(3)
memory usage: 464.0+ bytes
```

Fig: (b)

Fig (C) is the representaion of the table I obtained after scrapping the data from the above-mentioned link.

]:

	Borough	Status	Population-1990	Population-2000	Population-2010	Population-2019	Unnamed
0	Bronx	Borough	1203789	1332244	1384580	1418207	→
1	Brooklyn (Kings County)	Borough	2300664	2465689	2504721	2559903	→
2	Manhattan (New York County)	Borough	1487536	1538096	1586381	1628706	→
3	Queens	Borough	1951598	2229394	2230619	2253858	→
4	Staten Island (Richmond County)	Borough	378977	443762	468730	476143	→

Fig (c)

I have utilised only the Population 2019 as the crimes from the first source was only from the 2019 year. Refer Fig(d)

22]:

	Borough	Status	Population-2019
0	Bronx	Borough	1418207
1	Brooklyn (Kings County)	Borough	2559903
2	Manhattan (New York County)	Borough	1628706
3	Queens	Borough	2253858
4	Staten Island (Richmond County)	Borough	476143

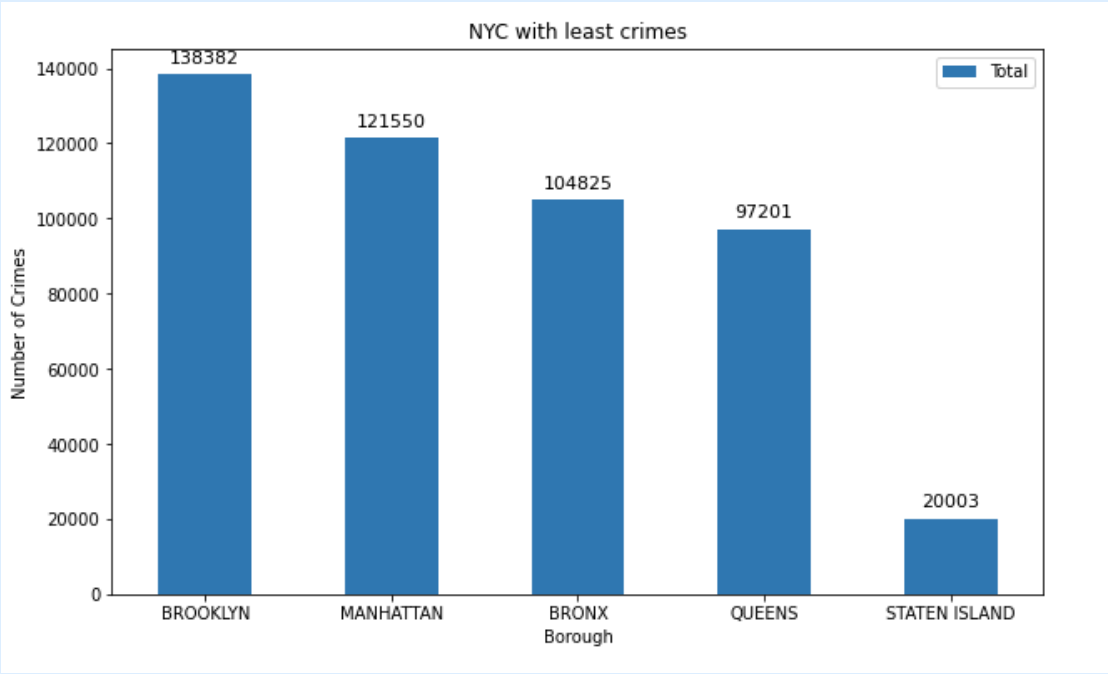
Fig(d)

After merging the NYPD crime data with the NYC census the data was Fig(e).

	Borough	Felony	Misdemeanor	Violation	Status	Population-2019	Total
1	BROOKLYN	46631	70504	21247	Borough	2559903	138382
2	MANHATTAN	38903	66785	15862	Borough	1628706	121550
0	BRONX	30356	57102	17367	Borough	1418207	104825
3	QUEENS	31369	49857	15975	Borough	2253858	97201
4	STATEN ISLAND	5059	10727	4217	Borough	476143	20003

Fig(e)

Third source to find the list of the Neighborhood of Staten Island as it is the most safest place according to our data. Fig(f)



Fig(f)

The link to get the neighbourhood dataset is https://geo.nyu.edu/catalog/nyu_2451_34572

And I downloaded 'newyork_data.json'.
The Coordinates of the neighbourhood are acquired by Geopy library to get the latitude and longitude values of NYC.

The new dataset acquired about neighbourhood is explored and segmented using Foursquare API.