Introduction

1.1 Background

Syria, officially the **Syrian Arab Republic**, is a country in Western Asia, bordering Lebanon to the southwest, the Mediterranean Sea to the west, Turkey to the north, Iraq to the east, Jordan to the south, and Palestine to the southwest.

Due to the political situation in Syria, a lot of Syrian moved out to other countries. In addition, Egypt and Syria has a good historical relationship; therefore, many Syrian people moved to Egypt and they started to open their own business across Egypt.

Egypt, officially the **Arab Republic of Egypt**, is a transcontinental country spanning the northeast corner of Africa and southwest corner of Asia by a land bridge formed by the Sinai Peninsula. Egypt is a Mediterranean country bordered by the Palestine to the northeast, the Gulf of Aqaba and the Red Sea to the east, Sudan to the south, and Libya to the west. Across the Gulf of Aqaba lies Jordan, across the Red Sea lies Saudi Arabia, and across the Mediterranean lie Greece, Turkey and Cyprus, although none share a land border with Egypt.

1.2 Problem

Due to the political situation in Syria, a lot of Syrian moved out to other countries. Moreover, Egypt and Syria has a good historical relationship. Therefore, many Syrian people moved to Egypt and they started to open their own business across Egypt.

A Syrian investor who would like to open a Syrian Restaurant in Alexandria, Egypt has approached me to help him identifying the best neighborhood location in terms of competition.

1.3 Interest

Actually any investor would like to open a business would be interested in the model as it can be modified to fit their needs of exploring the location and the type of business.

2. Data

2.1 Data sources and description

- List of Alexandria's neighborhoods (Wikipedia: https://en.wikipedia.org/wiki/Category:Neighbourhoods_of_Alexandria)
- Coordinates of the neighborhoods (Wikipedia: in the main page of the List of Alexandria's neighborhoods, there is a link for each neighborhood has the coordinate of the neighborhood)
- A list of all Syrian Restaurants in the neighborhoods (Foursquare: using the API from Foursquare)
- Coordinates of the restaurants (Foursquare: using the API from Foursquare)

2.2 Using the data to solve the problem

- Use the coordinate data of the neighborhoods and plot it on the map of Alexandria
- Use the coordinate data of the venues and plot it on the map of Alexandria
- Identify the Syrian restaurants and plot it on the map of Alexandria
- Finding the best location who has the fewest number of Syrian restaurants

2.3 Data cleaning

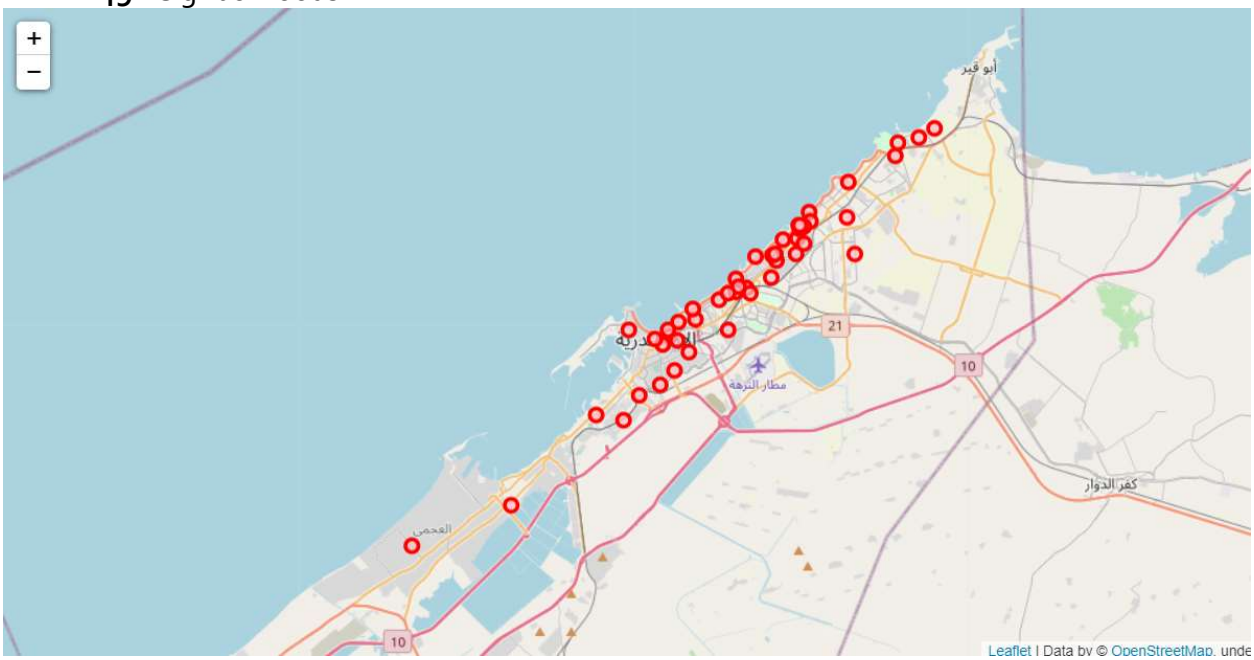
1. Use **Beautiful Soup** to scrap Wikipedia page to get the list of Alexandria's neighborhoods and the link that has the coordinate of each neighborhood
2. **Iterate** through the list of links to get the coordinates of each neighborhood
3. Use **Pandas** to create a DataFrame of the neighborhoods and a DataFrame of the Coordinates
4. **Merge** the 2 DataFrame to have one DataFrame has both the neighborhoods and the Coordinates
5. **Drop** any duplicates data or missing data

3. Methodology

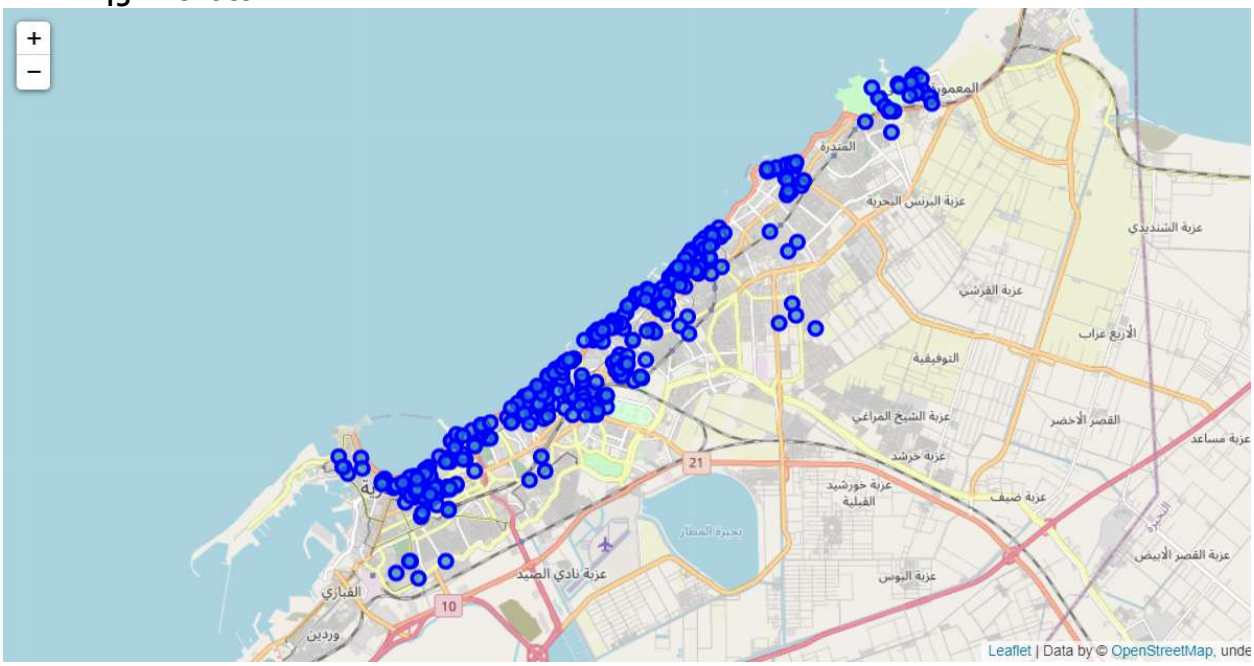
3.1 Exploratory data analysis and Inferential statistical

After data cleaning, we end up with:

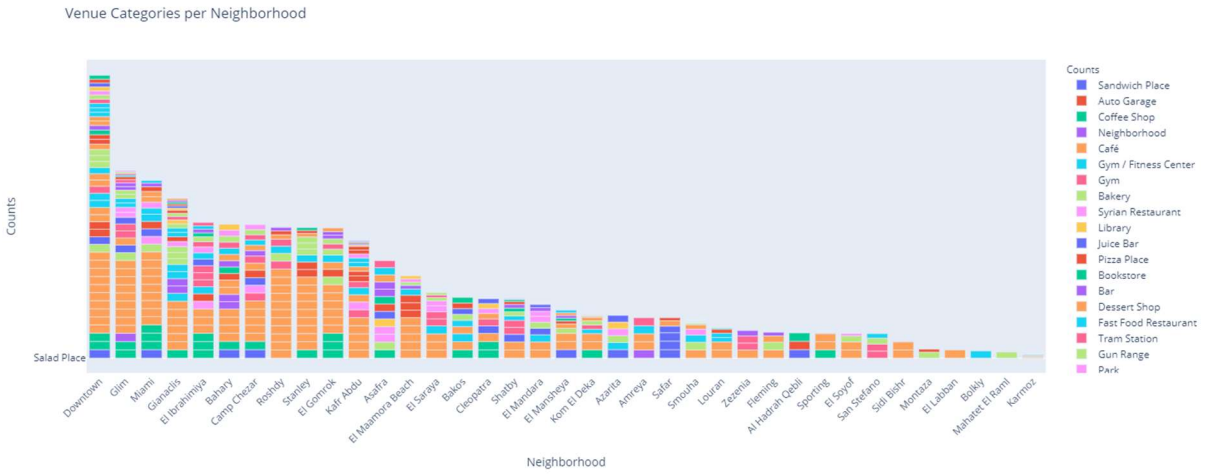
- **49** neighborhoods



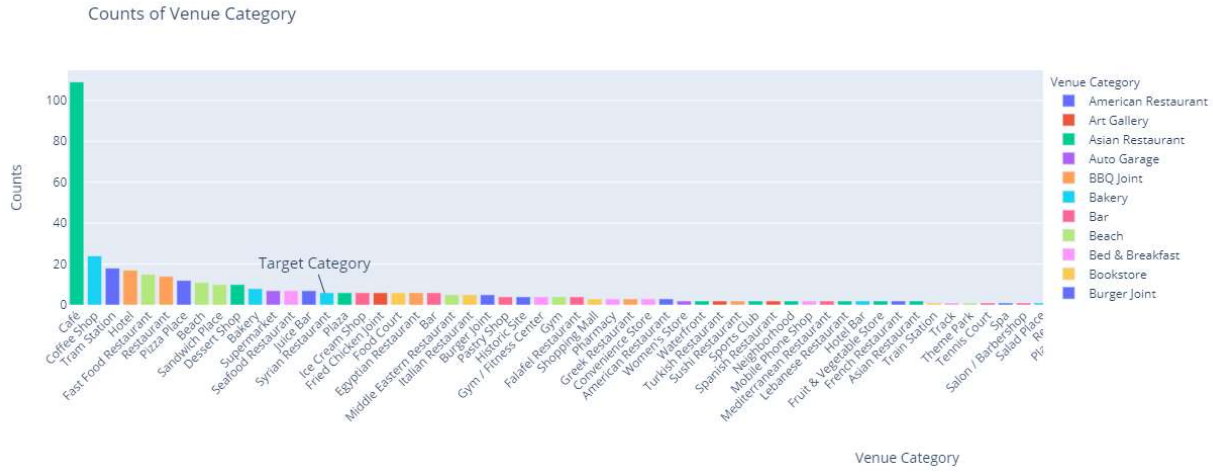
- **458** Venues



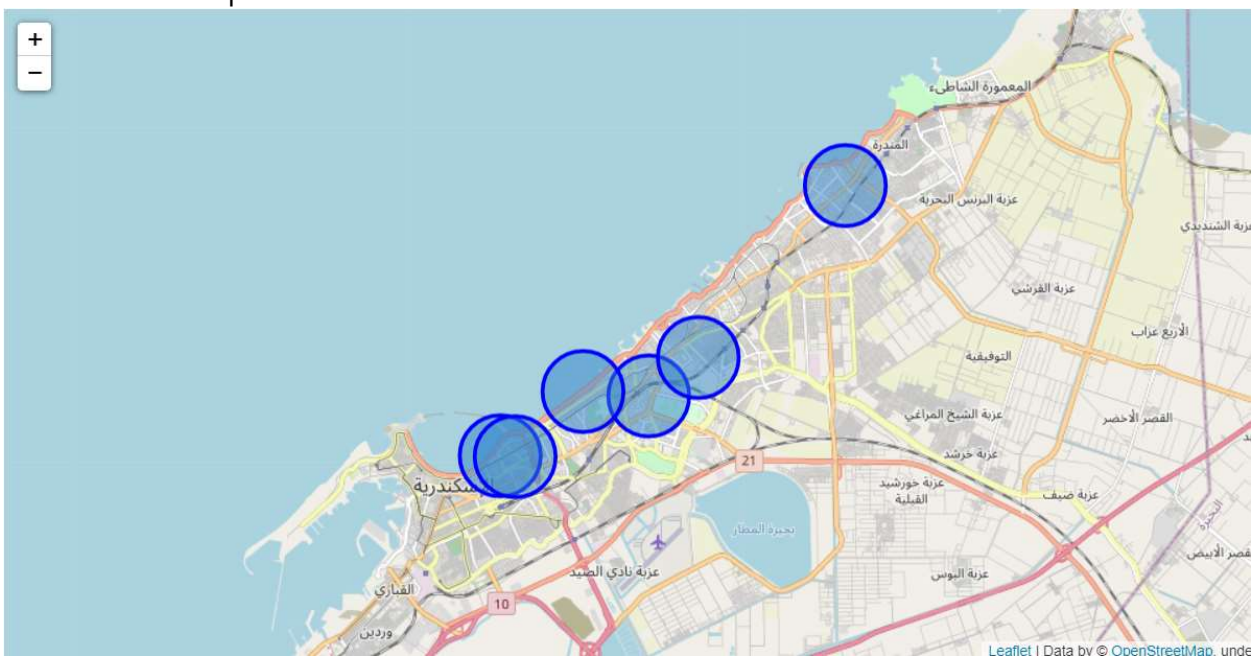
- As per the below graph there are some neighborhoods has high density of venues and some with very low density, obviously the Downtown has the highest portion of venues



- As per the below graph it shows that the Cafe (Traditional Coffee Shop) is the most frequent venue across all neighborhoods

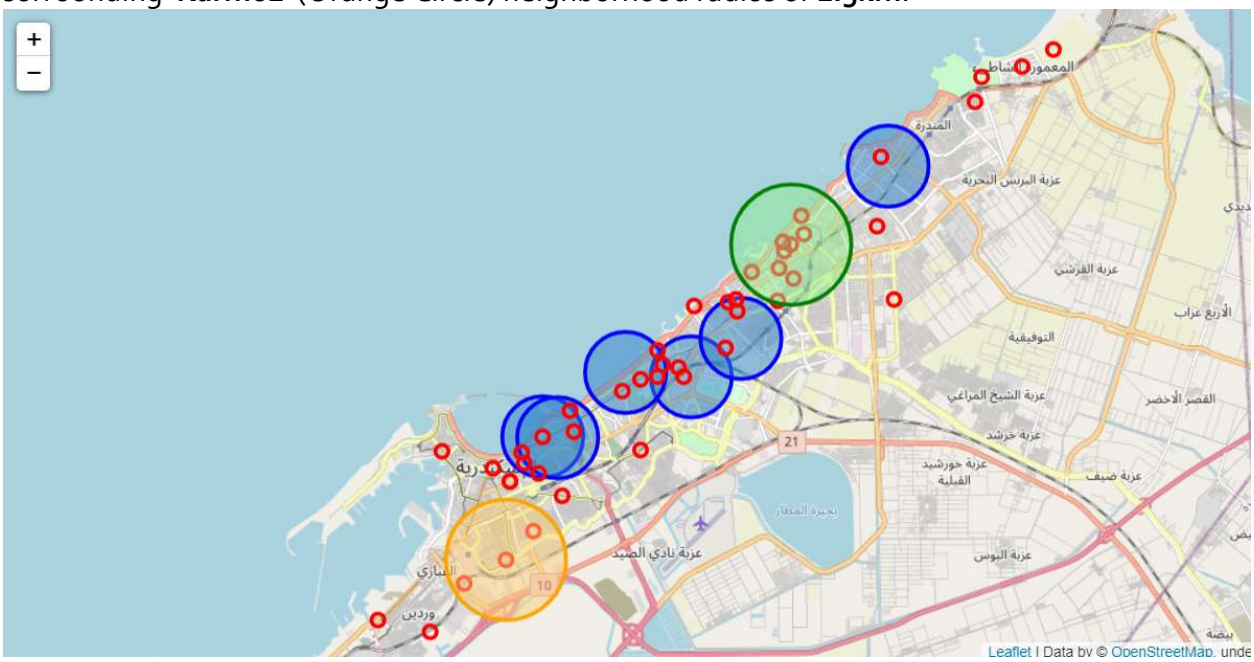


- The target venue is the Syrian restaurants end up with **6** restaurants located as per the below map



4. Results

As shown in the graph above if we add a circle of radius **1.0km** from the restaurants location, will see that there are 2 locations lacks Syrian Restaurant which the area on the east surrounding **'Louran'** (Green Circle) neighborhood radius of **1.5km** and on the west side surrounding **'Karmoz'** (Orange Circle) neighborhood radius of **1.5km**.



5. Discussion

Based on the results observed from the data analysis the recommendation is to open the restaurant on the **'Louran'** neighborhood**,** as it has a population of **mid to high-income level**.

6. Conclusion

In this case study I gathered the information needed to do the analysis**,** cleaned the data**,** identified the neighborhoods and the target venues and its locations**,** identified the best location that lacks of this category of venue and thus the recommendation where to open the restaurant.

This study can be replicated to any different location and venue will help the interested stakeholders to identify the best place according to their needs.