

Oslo is Capital city and one of the largest city In Norway, It has a tourist attractive museum and place as well . Because of that it is visited by millions every year by travelers all over the world.. As a resident of this city, I decided to open a ‘Turkish restaurant and Kabab Restaurant’ in Oslo for my project. The city is divided into 12 districts in total. However, the fact that the some distinct are visited and more popular and attractive . so as a management of restaurant we are looking place for local and international customers .

When we consider having more costumers problems, we have to create a map and get information chart that how many restaurants are there and what kind of meals locally or international servicing. As a Turkish restaurant they are competitive with Asian , Indian , Middle-East ,Center Asian restaurants. So I have to find how many of them are in oslo and where they are located in the main city center and where I have to open my restaurants.

A.2. Data Description

To consider the problem we can list the data's as below:

- I found the Borough of Oslo in Wikipedia
- I used Foursquare API to get the most common venues of given Borough of Oslo [2].
- I found the all type of restaurants by using Foursquare API
- I used Google Map, ‘Search Nearby’ option to get the center coordinates of the each Borough. [4].

B. Methodology

As a database, I used GitHub repository in my study. My master data which has the main components Borough, Average House Price, Latitude and Longitude informations of the city.

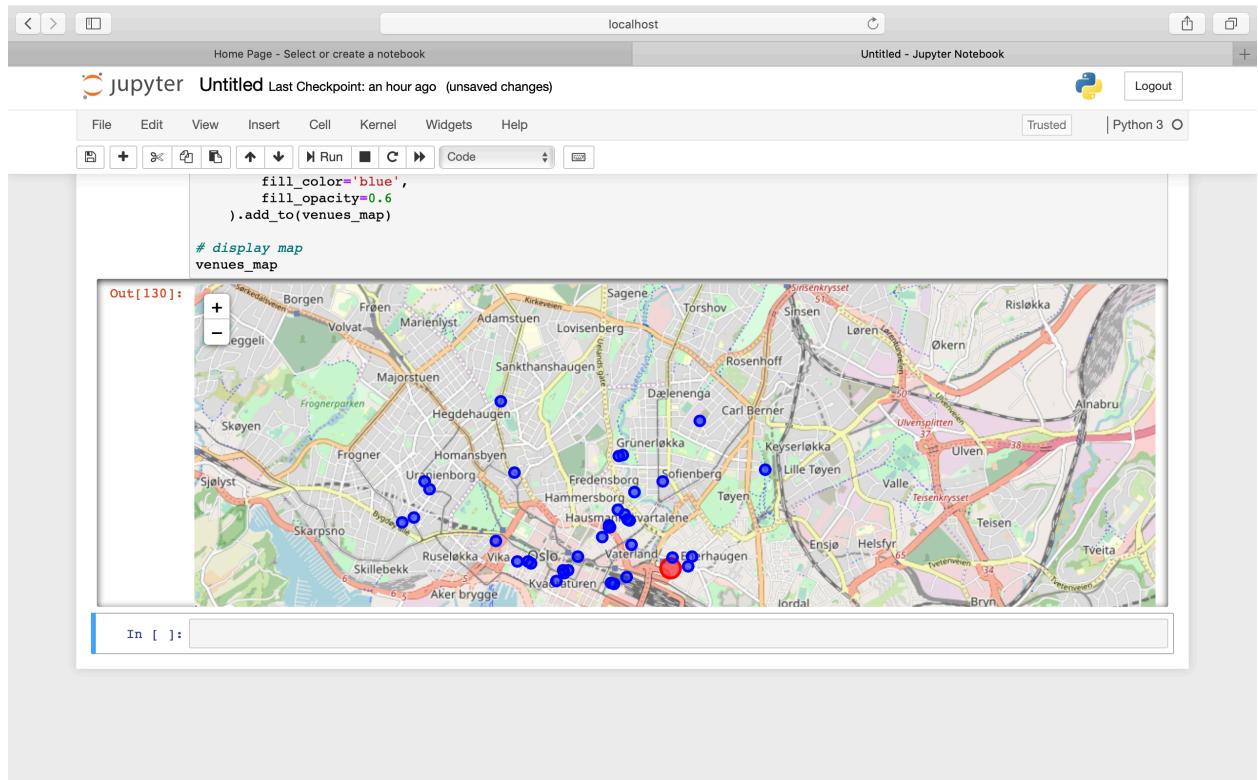
```
In [122]: dfp = pd.read_html('https://en.wikipedia.org/wiki/Oslo', header=0)
dfp.drop_duplicates(inplace=True)
dfp.reset_index()

In [123]: dfp
```

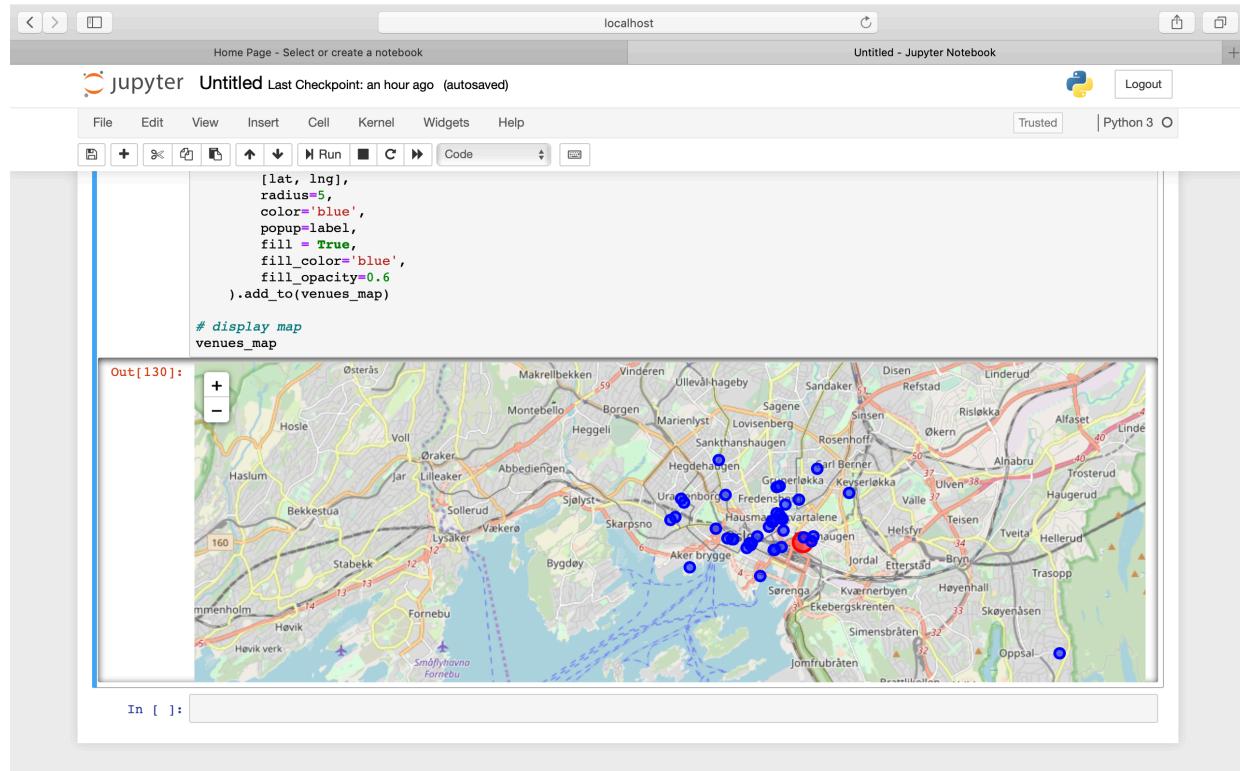
	Boroughs	Inhabitants (2018)	Area in km ²	number
0	Areia	48770	13.7	12.0
1	Bjerke	30502	7.7	9.0
2	Frogner	55965	8.3	5.0
3	Gamle Oslo	49854	7.5	1.0
4	Gronland	27283	8.2	10.0
5	Grorud	54701	4.8	2.0
6	Nordre Aker	49337	13.6	8.0
7	Nordstrand	49428	16.9	14.0
8	Sagene	39918	3.1	3.0
9	St. Hanshaugen	36018	3.6	4.0
10	Stovner	31669	8.2	11.0
11	Søndre Nordstrand	37913	18.4	15.0
12	Ullern	22134	9.0	6.0
13	Vestre Aker	47024	16.6	7.0
14	Ostensjø	49133	12.2	13.0
15	Overall	647616	151.8	NaN

I used python **folium** library to visualize geographic details of restaurants and its locations I used food search values to get the visual as below

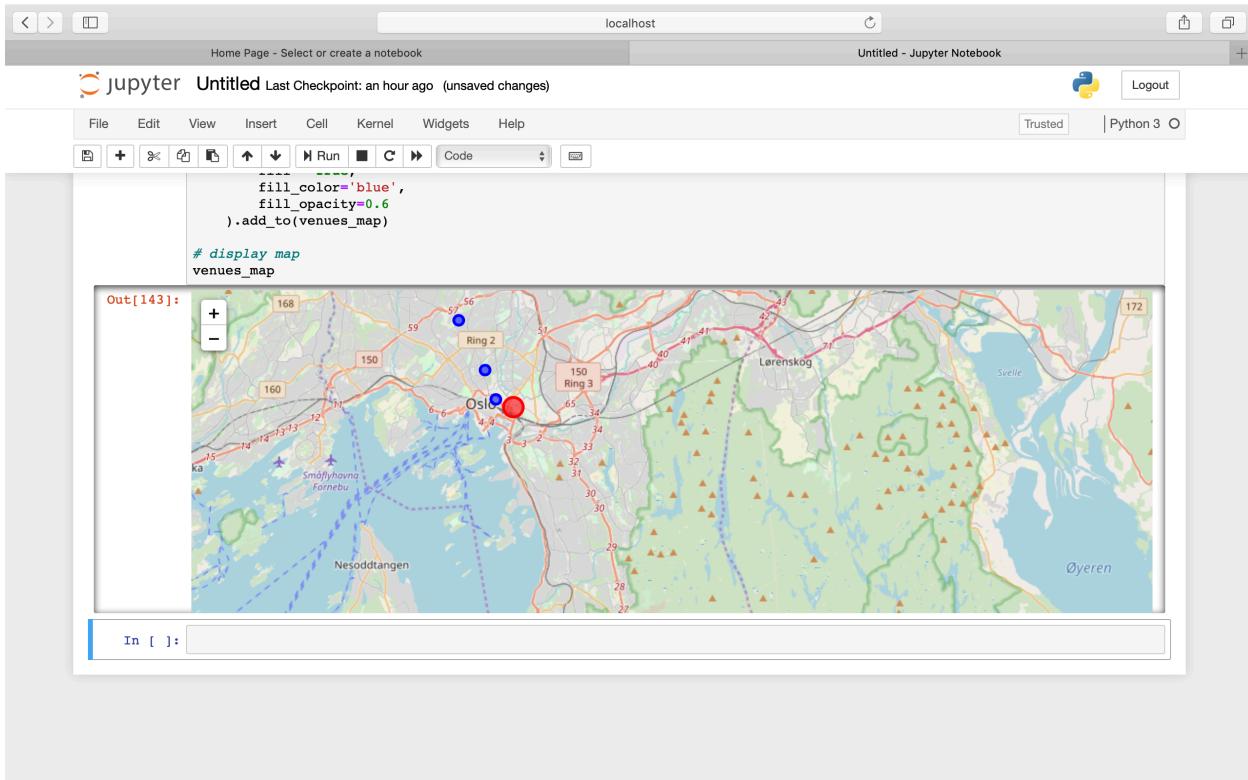
1- Food Search



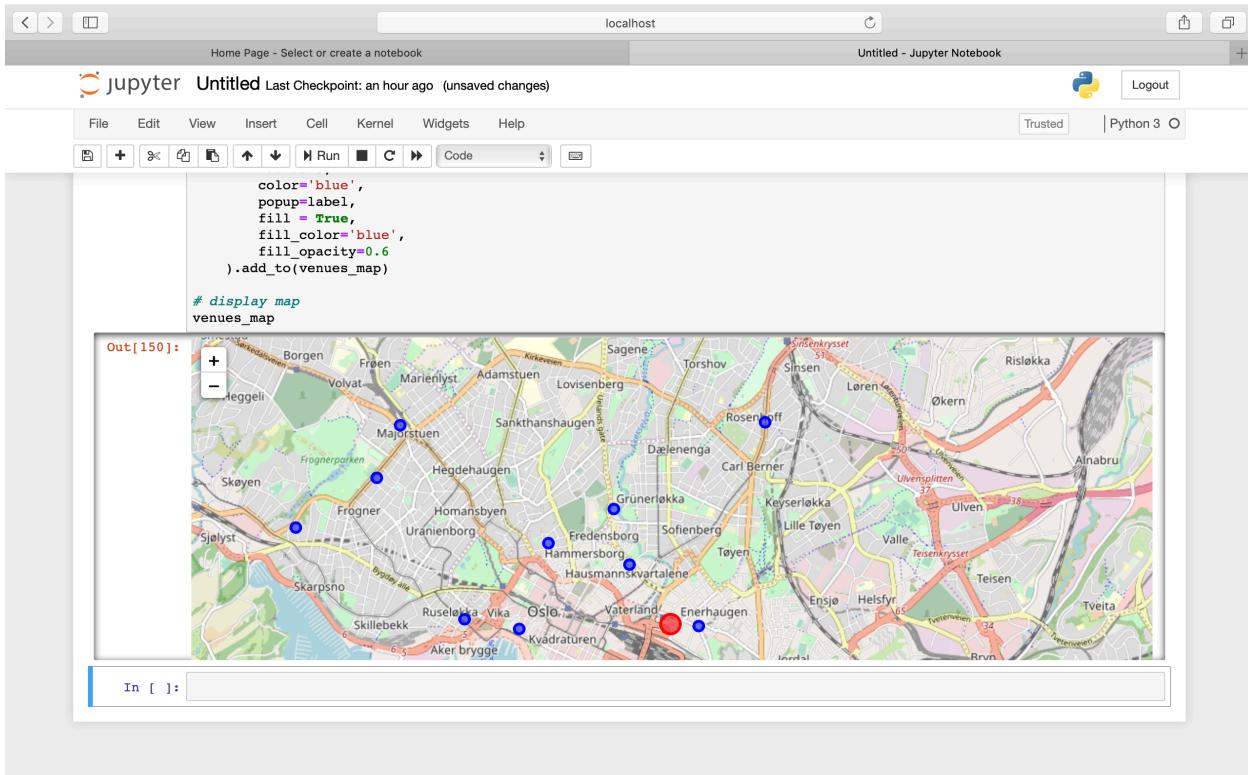
2-Indian restaurants



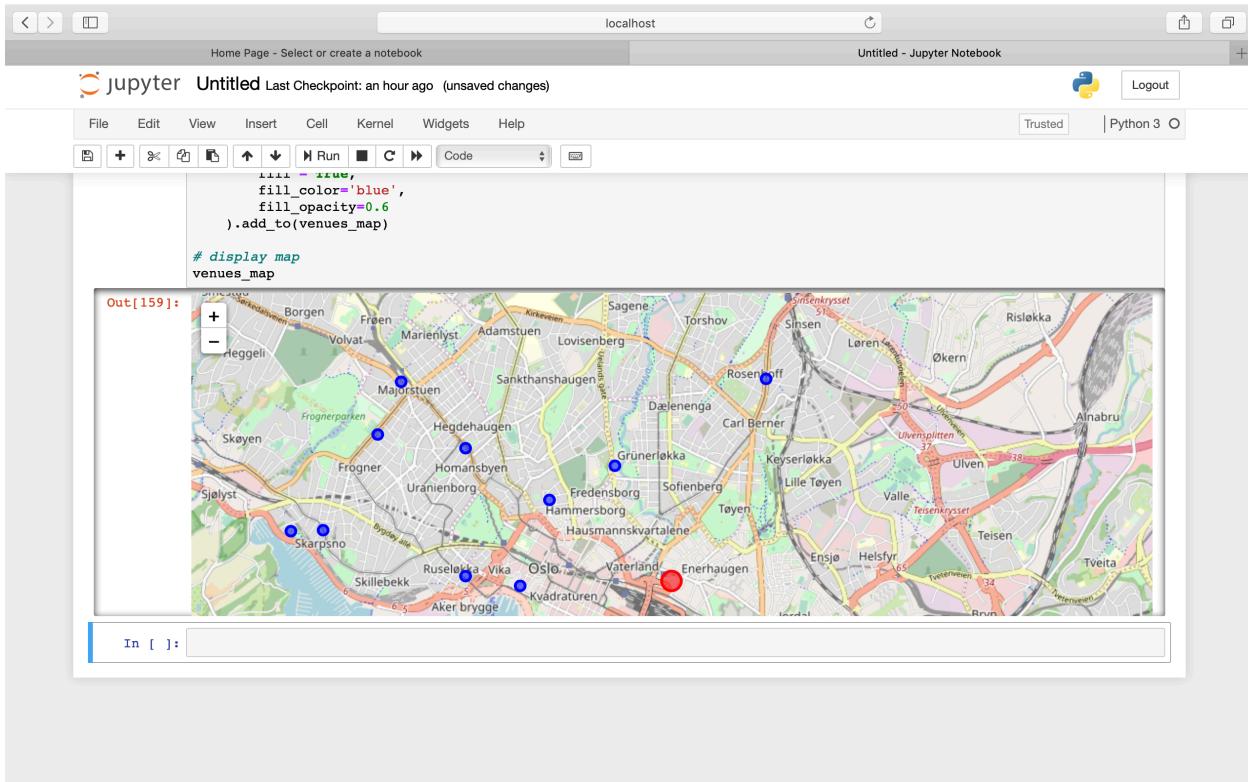
Chinese restaurants



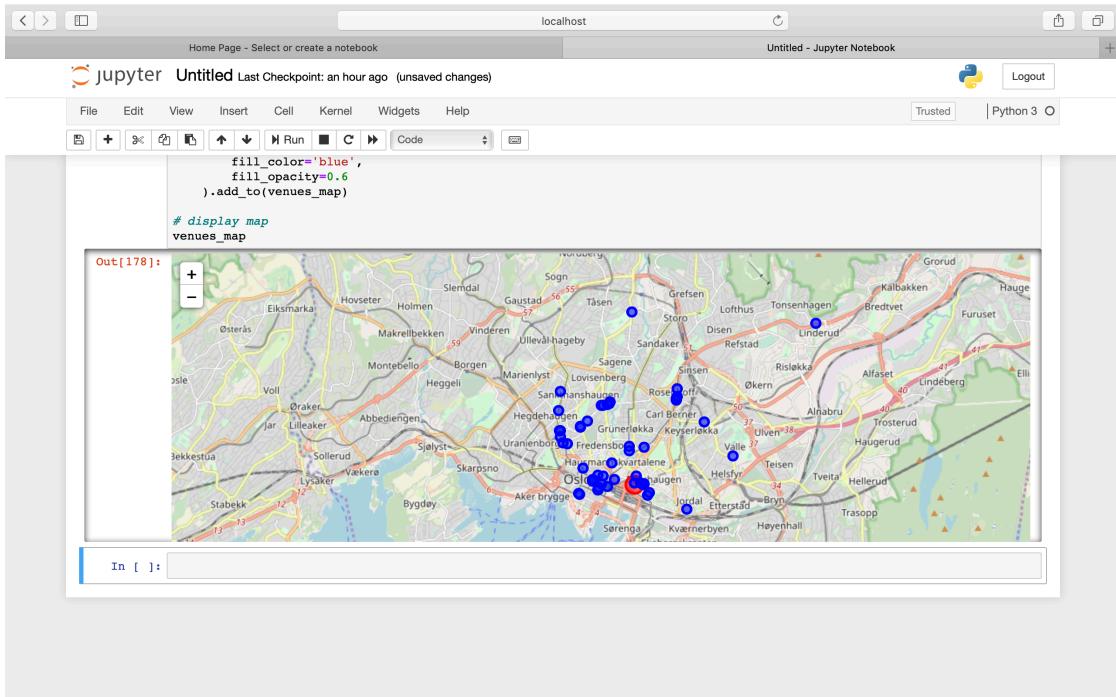
Turkish



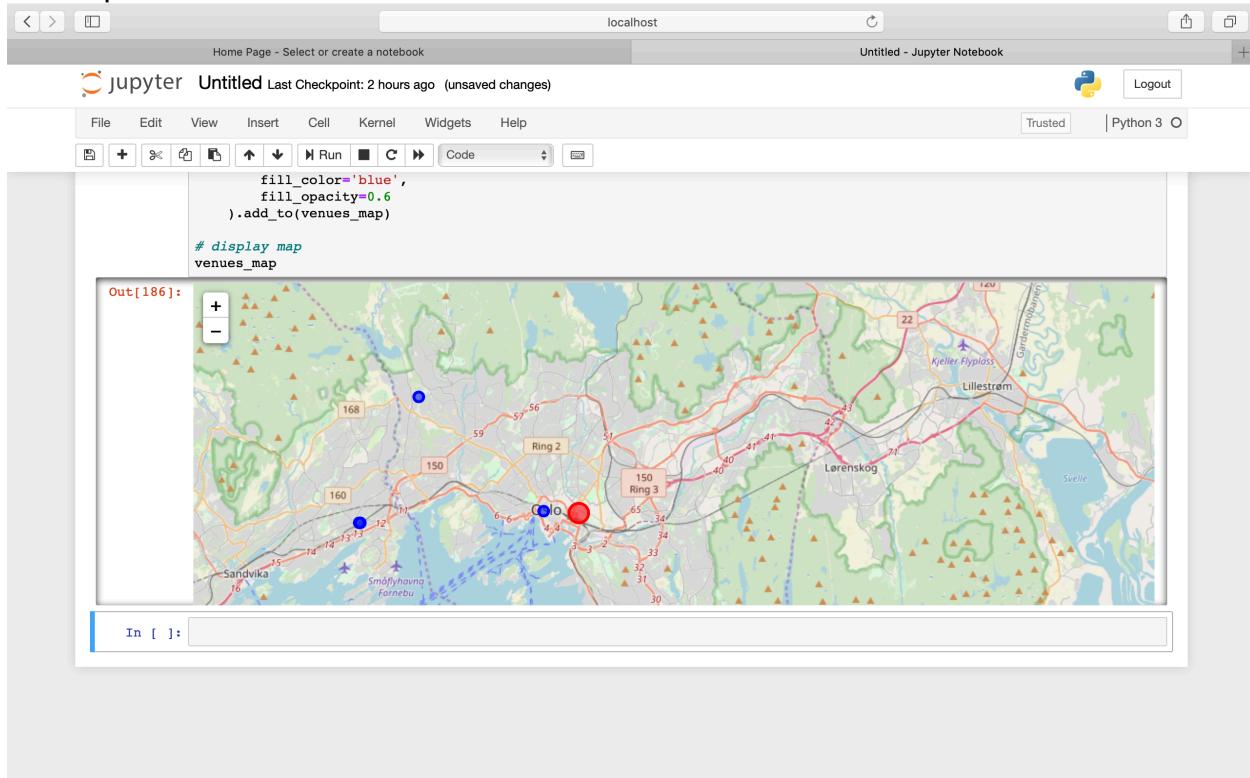
Arab Restaurants



Halal food , Kabab



Barbeque



Results

I have been searching all types of my competitive restaurants and their location and joined them in one data frame and cleaned data's.

Its look like that

```
In [404]: dataframeN.shape
Out[404]: (135, 18)

In [405]: dataframeN.head()

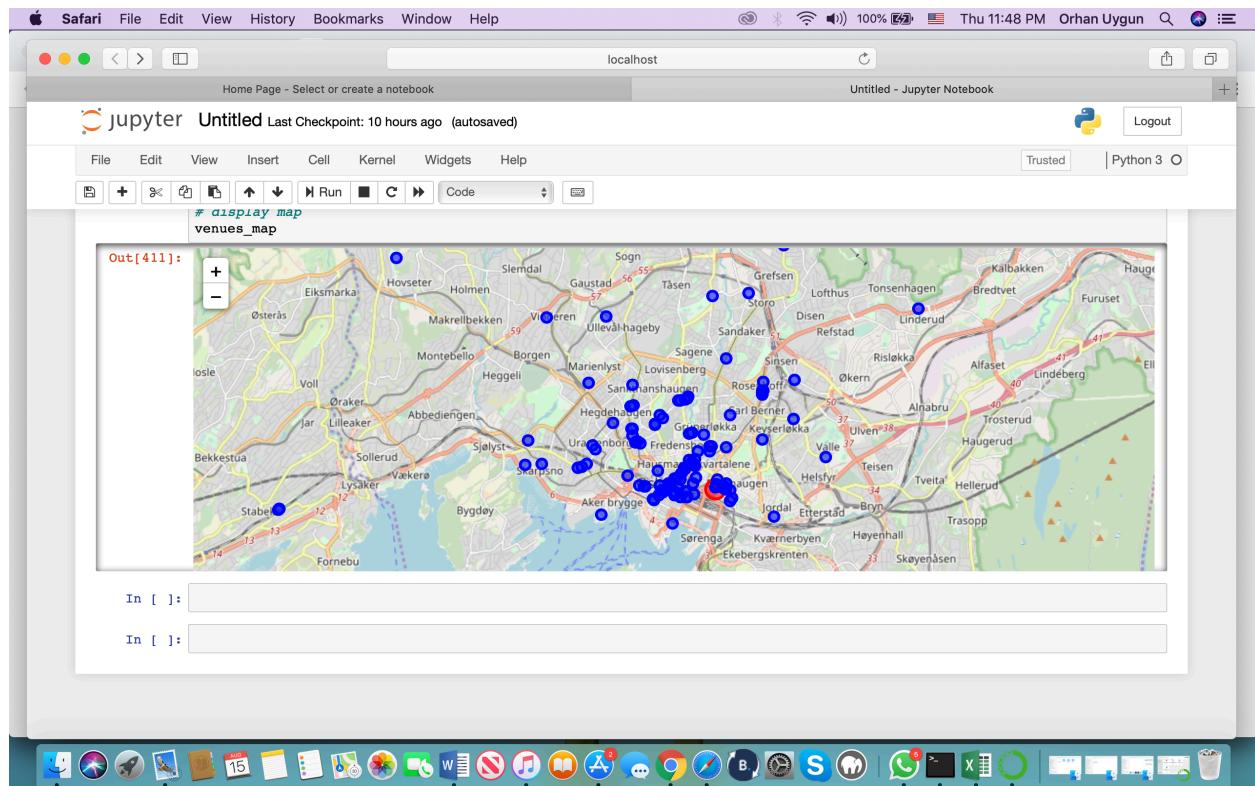
Out[405]:
   s hasPerk          id location.address location.cc location.city location.country location.crossStreet location.distance location.formattedAddress
0  False  4cdc03b1fc973704ce9fd205    Osterhaus gate 8        NO      Oslo       Norge           Calmeyers Gate                 642 [Osterhaus gate, (Calmeyers Gate), 018 Oslo, ...
1  False  5c5550441c675b002c45192d    Torggata 16        NO      Oslo       Norge                  NaN                723 [Torggata 16, 0187 Oslo, Norg ...
2  False  5555c82a498e57e6b61285e5  Nedre Slottsgate 8        NO      Oslo       Norge           Prinsens gate                 1047 [Nedre Slottsgate, (Prinsens gate), 0157 Oslo ...
3  False  4ff9655ae4b04619c846e523    Grønland 8        NO      Oslo       Norge                  NaN                109 [Grønland 8, 0187 Oslo, Norg ...
4  False  5cbb1f837a0eff002577f568            NaN        NO      NaN       Norge                  NaN                741 [0181, Norg ...

In [409]: #keep only columns that include venue name, and anything that is associated with location
filtered_columns = ['name', 'categories'] + [col for col in dataframeN.columns if col.startswith('location.')] + ['id']
```

total

(135, 18) restaurant is in our competitive

F. Conclusion



As a result, people are turning to big cities to start a business or work. For this reason, people can achieve better outcomes through their access to the platforms where such information is provided.

For opening a restaurants in the area you may easily search look the map

Not only for investors but also city managers can manage the city more regularly by using similar data analysis types or platforms.