Applied Data Science Capstone:
Best Location for Opening a Mediterranean Restaurant in Toronto
by Maria

1.- Introduction/Business Problem:

Idea:

Thinking about create a new bussiness of Mediterranean Restaurant. Where is the best location for it? Location is really important to have a successful restaurant, demand, people and neighboorhood need to be analize.

Purpose:
The purpose is find the best location for opening a Spanish Restaurant in Toronto

The possibilities of mediterranean food from Spain as an unique restaurant with quality and making the difference with other restaurants of the area. I will focus on find the best location for the restaurant, in a Good neighboorhod with potential clients and no so much competitors, although in an area with more restaurants to be sure the people loves go there for leisure.

Target Audience:

This can help people who want to open a Mediterranean restaurant in Toronto, or people with this business thinking about move the restaurant to another neighboorhood.

2. Data: The data sources are:
a) For the Toronto neighborhood data: Wikipedia page,
    https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
    As we did in week3 of this Capstone I will read this data. I will create an structured format with the information of postal code, Borough and neighborhod.
b) Then with "https://cocl.us/Geospatial_data" csv file to get all the geo coordinates
c) Then I will use Foursquare API to find the restaurants of the area

3. Managing the data

I read the data from Wikipedia for postal codes of Canada and remove the boroughs not assigned. Then group by postal code.
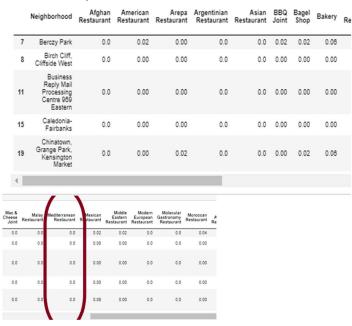I add the coordinates for postal code
Then using Foursquare API I find all the venues per neighboorhood. See the image:

	Neighborhood	Yoga Studio	Accessories Store	Airport	Airport Food Court	Airport Gate	Airport Lounge	Airport Service	Airport Terminal	American Restaurant	Aquarium	Art Gallery	Arts & Crafts Store	Asian Restaurant	Athletics & Sports	Auto Workshop	BBQ Joint	Baby Store	Bagel Shop	Bakery	Bank	Bar
0	Adelaide, King, Richmond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04
1	Agincourt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2	Agincourt North, L'Amoreaux East, Milliken, St...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
3	Albion Gardens, Beaumond Heights, Humbergate, ...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
4	Alderwood, Long Branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00

Now is the time to create models to see if open a Mediterranean Restaurant is a good idea or not

We can see the restaurants per neighborhood to check there are a loto f them without competitors, no other Mediterranean Restaurants. That is great!:

	Neighborhood	Afghan Restaurant	American Restaurant	Arepa Restaurant	Argentinian Restaurant	Asian Restaurant	BBQ Joint	Bagel Shop	Bakery	Re
7	Berczy Park	0.0	0.02	0.00	0.0	0.0	0.02	0.02	0.06	
8	Birch Cliff, Cliffside West	0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.00	
11	Business Reply Mail Processing Centre 969 Eastern	0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.00	
15	Caledonia-Fairbanks	0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.00	
19	Chinatown, Grange Park, Kensington Market	0.0	0.00	0.02	0.0	0.0	0.00	0.02	0.06	

Mac & Cheese Joint	Malay Restaurant	Mediterranean Restaurant	Mexican Restaurant	Middle Eastern Restaurant	Modern European Restaurant	Molecular Gastronomy Restaurant	Moroccan Restaurant	Re
0.0	0.0	0.0	0.02	0.02	0.0	0.0	0.04	
0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.00	
0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.00	
0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.00	
0.0	0.0	0.0	0.08	0.00	0.0	0.0	0.00	

And we can see the Pearson correlation for Mediterranean Restaurant is strong:

48	Indian Restaurant	0.000000
49	Indonesian Restaurant	0.000000
50	Irish Pub	0.068737
51	Italian Restaurant	0.162859
52	Japanese Restaurant	0.086391
53	Korean Restaurant	0.000000
54	Latin American Restaurant	0.053914
55	Mac & Cheese Joint	0.000000
56	Malay Restaurant	0.000000
57	Mediterranean Restaurant	1.000000
58	Mexican Restaurant	0.151610
59	Middle Eastern Restaurant	0.056029
60	Modern European Restaurant	0.000000

So, open a Mediterranean Restaurant is a Good idea in Toronto, we can choose in all of those neighborhoods to entrpreneur.
Thanks for Reading.