

“VEGETARIAN / VEGAN RESTAURANTS” NEIGHBORHOODS

Applied Capstone Course Assignment
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Introduction

Methodology

Results

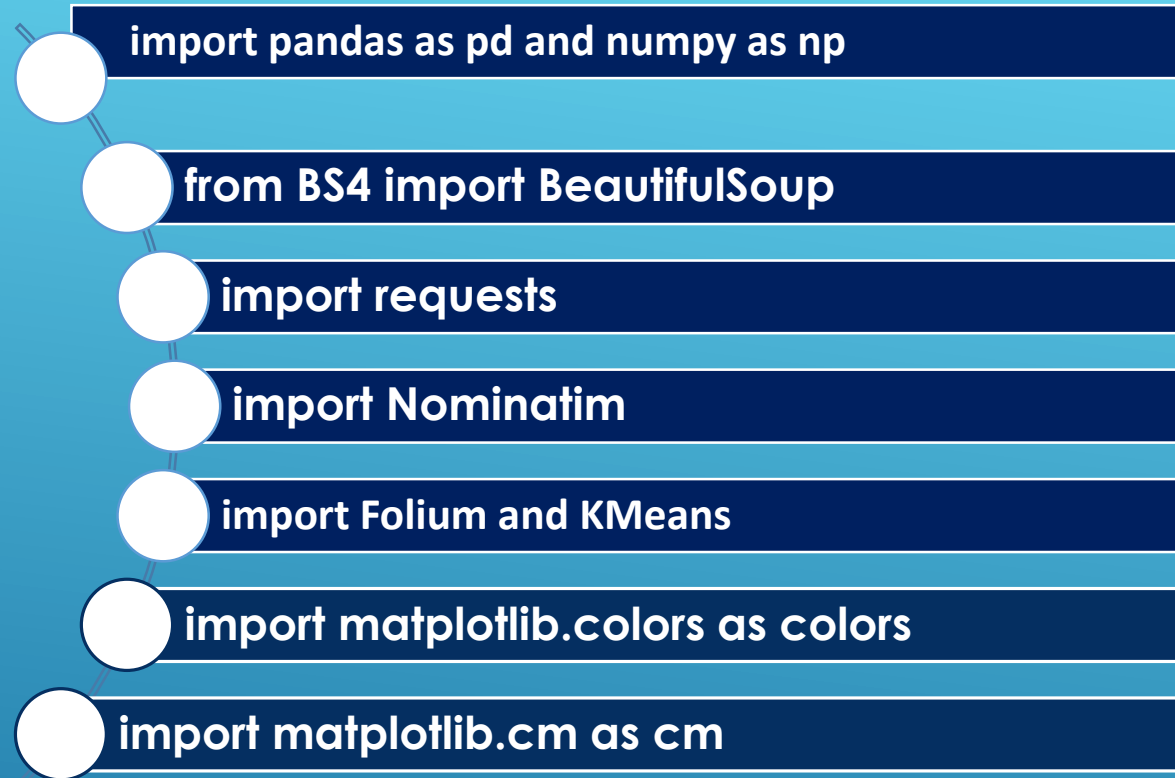
Conclusion

PRESENTATION OUTLINE

- ▶ Globally, the rates of obesity-related chronic diseases have become a public health concern.
- ▶ Most people are transforming into distinct lifestyles to reduce the high risk of chronic disease caused by modern nutritional patterns.
- ▶ Vegetarianism is the best diet to enhance health.
- ▶ Figure below by (Humankind Ventures Ltd, 2020) illustrates some of the food consumed by vegetarians.



INTRODUCTION



LIBRARIES



METHODOLOGY

Data before cleaning

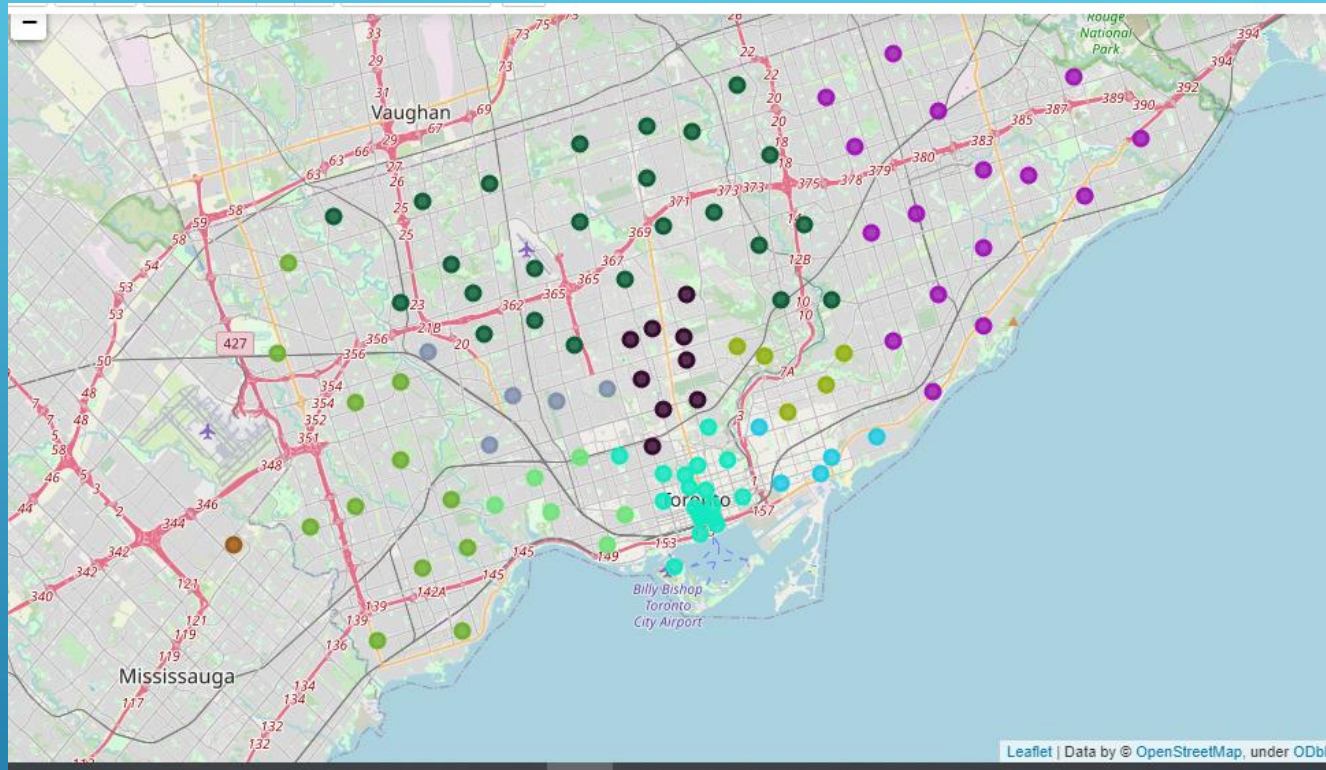
	Postal Code	Borough	Neighbourhood
0	M1A	Not assigned	Not assigned
1	M2A	Not assigned	Not assigned
2	M3A	North York	Parkwoods
3	M4A	North York	Victoria Village
4	M5A	Downtown Toronto	Regent Park, Harbourfront
5	M6A	North York	Lawrence Manor, Lawrence Heights
6	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government
7	M8A	Not assigned	Not assigned
8	M9A	Etobicoke	Islington Avenue, Humber Valley Village
9	M1B	Scarborough	Malvern, Rouge
10	M2B	Not assigned	Not assigned
11	M3B	North York	Don Mills

Data after cleaning

	PostalCode	Borough	Neighbourhood
0	M3A	North York	Parkwoods
1	M4A	North York	Victoria Village
2	M5A	Downtown Toronto	Regent Park, Harbourfront
3	M6A	North York	Lawrence Manor, Lawrence Heights
4	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government
5	M9A	Etobicoke	Islington Avenue, Humber Valley Village
6	M1B	Scarborough	Malvern, Rouge
7	M3B	North York	Don Mills
8	M4B	East York	Parkview Hill, Woodbine Gardens
9	M5B	Downtown Toronto	Garden District, Ryerson
10	M6B	North York	Glencairn
11	M9B	Etobicoke	West Deane Park, Princess Gardens, Martin Grov...

RESULTS: BEFORE AND AFTER DATA CLEANING

Map with markers



RESULTS: TORONTO MAP

K-means clustering

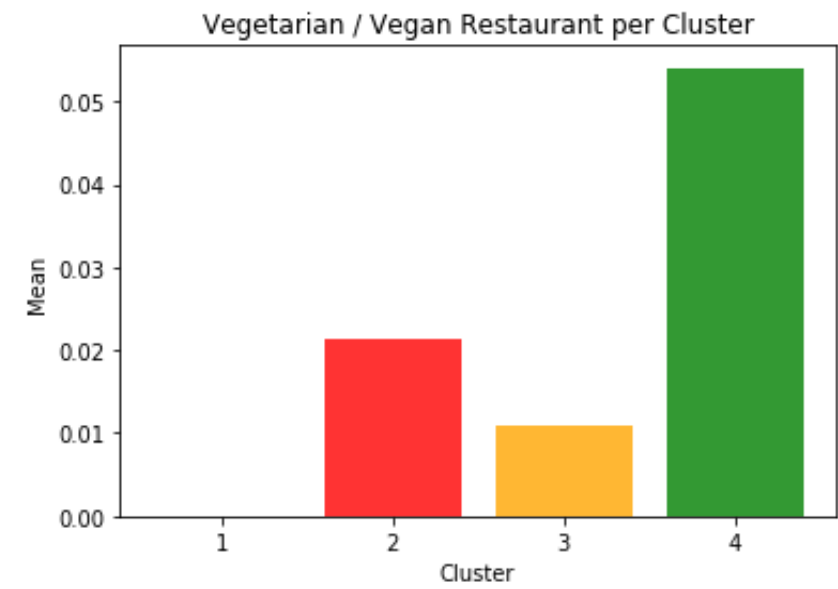
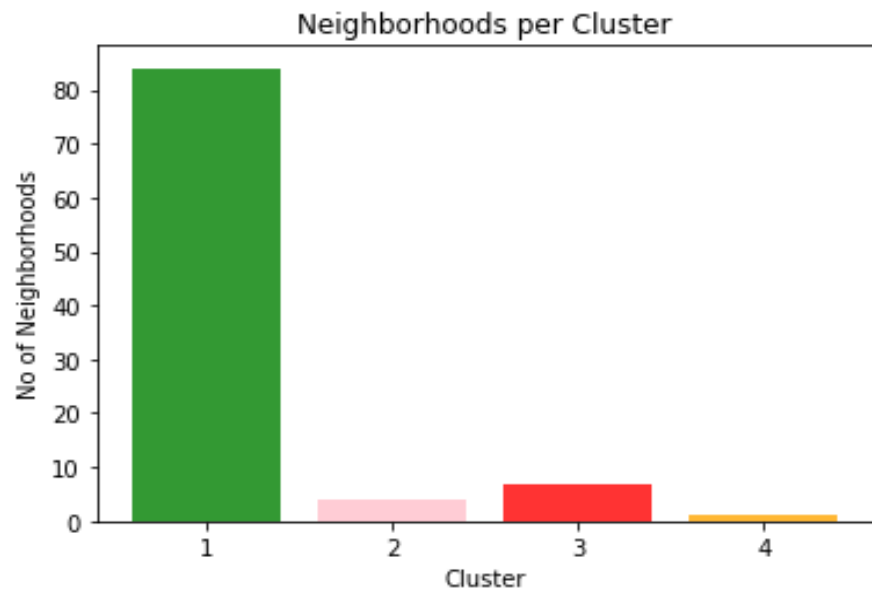
```
1 kclusters = 4
2
3 toronto_grouped_clustering = fd.drop('Neighbourhood', 1)
4
5 # run k-means clustering
6 kmeans = KMeans(n_clusters=kclusters, random_state=0).fit(toronto_grouped_clustering)
7
8 # check cluster labels generated for each row in the dataframe
9 kmeans.labels_[0:10]
```

```
array([0, 0, 0, 0, 0, 1, 0, 0, 0, 0])
```

```
1 # create a new dataframe that includes the cluster as well as the top 10 venues for each neighborhood.
2 to_merged = fd.copy()
3
4 # add clustering labels
5 to_merged["Cluster Labels"] = kmeans.labels_
6 to_merged.head()
```

	Neighbourhood	Vegetarian / Vegan Restaurant	Cluster Labels
0	Agincourt	0.0	0
1	Alderwood, Long Branch	0.0	0
2	Bathurst Manor, Wilson Heights, Downsview North	0.0	0
3	Bayview Village	0.0	0
4	Bedford Park, Lawrence Manor East	0.0	0

RESULTS: MACHINE LEARNING



Cluster 1 has the highest neighbourhoods (84) while cluster 2 has (7), cluster 3 has (4) neighbourhoods and cluster 4 has only (1).

Vegetarian / Vegan Restaurants are situated in cluster 4, followed by cluster 3 and cluster 2. Cluster 1 does not have Vegetarian / Vegan Restaurants.

RESULTS: CLUSTER ANALYSIS

- ▶ The first neighborhood explored in our data set is 'Malvern, Rouge.'
- ▶ Cluster 1 has the highest neighbourhoods (84), while cluster 2 has (7), cluster 3 has (4) neighbourhoods, and cluster 4 has only (1).
- ▶ Most of the Vegetarian / Vegan Restaurants are situated in cluster 4, followed by cluster 3 and cluster 2
- ▶ Cluster 1 does not have any Vegetarian / Vegan Restaurants; therefore, this an opportunity to establish a new Vegetarian / Vegan Restaurants business in this area.
- ▶ The study was successful because the entrepreneurs will have a clear picture of the location of Vegetarian / Vegan Restaurants in Toronto.

CONCLUSION