

BATTLE OF NEIGHBORHOODS

BALTIMORE



PROBLEM STATEMENT


- Segment by areas the city of Baltimore by the type of food that people prefer in the area
- Be able to detect which areas of the city are more problematic or dangerous

OBJECTIVE

- Obtain information on incidents that occurred in the city of Baltimore through the OPEN BALTIMORE API
- Collect the main restaurants by neighborhood that people most frequent with the use of the Foursquare API (Beautiful Soup, http request)
- Forming neighborhood clusters based on the categories of the restaurants using unsupervised k-mean clustering algorithm (sklearn)

WORK FLOW INCIDENTS

Collect incident of Baltimore
<https://data.baltimorecity.gov/>




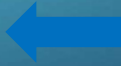
	description	district	location	priority
17	Transport	ED	{'type': 'Point', 'coordinates': [-76.910995, ...]}	Low
21	Repairs/Service	SE	{'type': 'Point', 'coordinates': [-76.640145, ...]}	Non-Emergency
24	Transport	CD	{'type': 'Point', 'coordinates': [-76.064683, ...]}	Low
31	Transport	WD	{'type': 'Point', 'coordinates': [-79.041847, ...]}	Low
44	INVEST	NE	{'type': 'Point', 'coordinates': [-79.828213, ...]}	Low



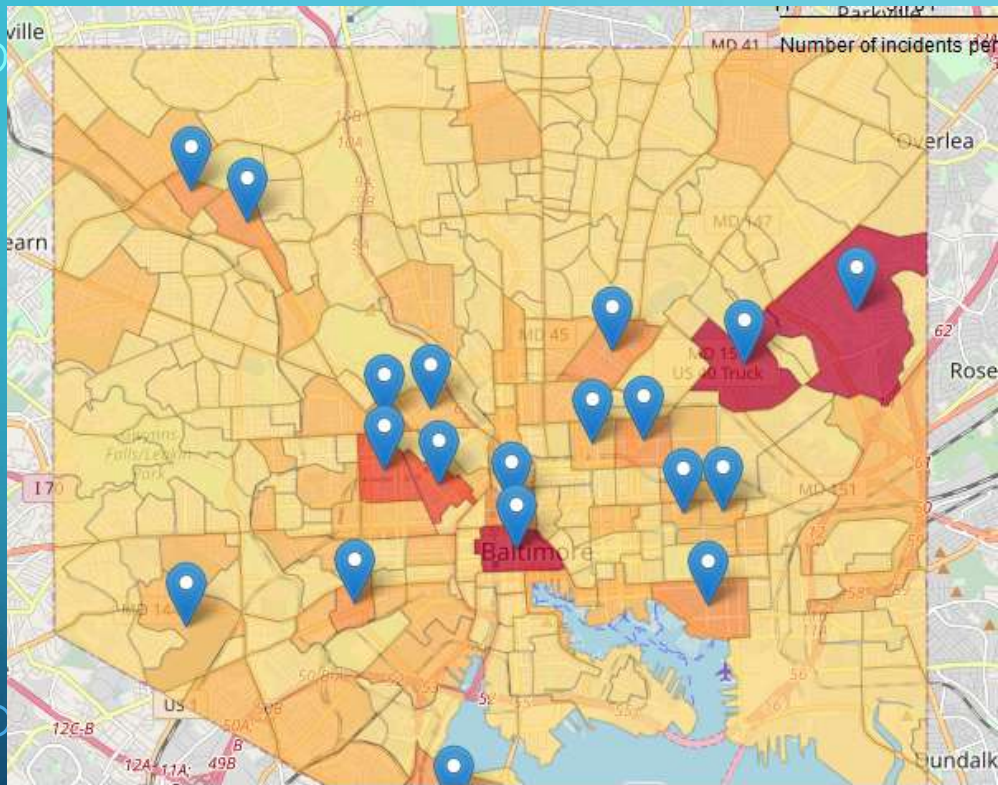
Graph the map with
information

Group incidents by
neighborhood

Identify in which
neighborhood the
incident occurred



THE MOST DANGEROUS NEIGHBORHOODS IN BALTIMORE



	Neighborhood	the_geom	counts
274	BELAIR-EDISON	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	18865
64	DOWNTOWN	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	18813
45	FRANKFORD	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	17685
220	SANDTOWN-WINCHESTER	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	14460
241	UPTON	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	14299
25	BROOKLYN	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	13562
35	CARROLLTON RIDGE	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	10980
194	PENN NORTH	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	10204
42	CENTRAL PARK HEIGHTS	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	9986
29	CANTON	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	9078
46	CHERRY HILL	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	8791
22	BROADWAY EAST	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	8503
164	MOUNT VERNON	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	8428
4	ARLINGTON	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	8339
53	COLDSTREAM HOMESTEAD MONTEBELLO	{type: 'MultiPolygon', 'coordinates': [[[[[-7...	7677

WORK FLOW RESTAURANTS

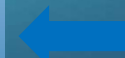
Collect venues of Baltimore
<https://foursquare.com/developers/apps>



	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	ABELL	39.325947	-76.611394	32nd Street Farmer's Market	39.327362	-76.610851	Farmers Market
1	ABELL	39.325947	-76.611394	Pete's Grille	39.327064	-76.609593	Breakfast Spot
2	ABELL	39.325947	-76.611394	The Book Thing	39.325253	-76.610272	Bookstore
3	ABELL	39.325947	-76.611394	Normal's Books & Records	39.326012	-76.609903	Record Shop
4	ABELL	39.325947	-76.611394	Peabody Heights Brewery	39.324744	-76.610819	Brewery



We filter information
only from restaurants

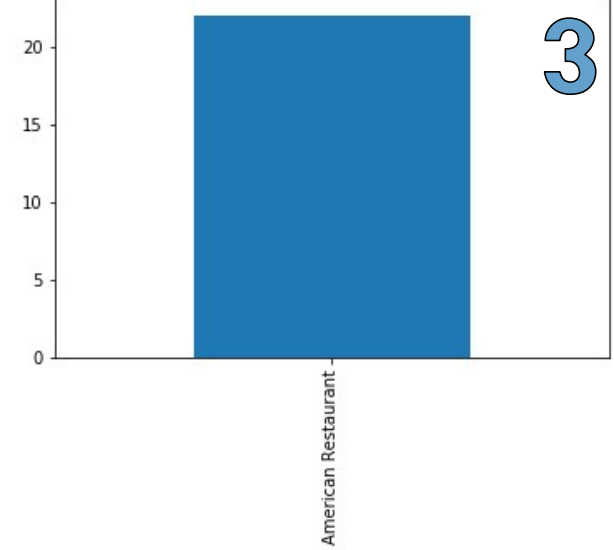
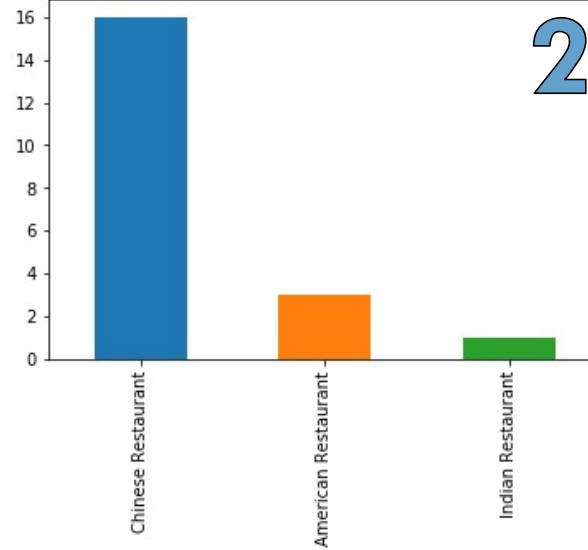
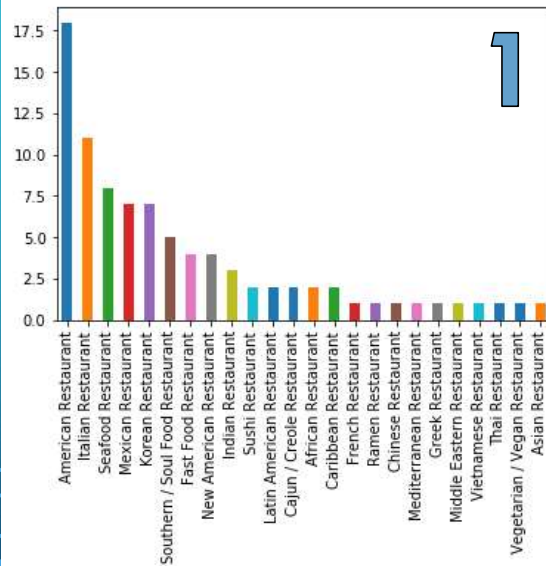


We get restaurant
frequencies by
neighborhood

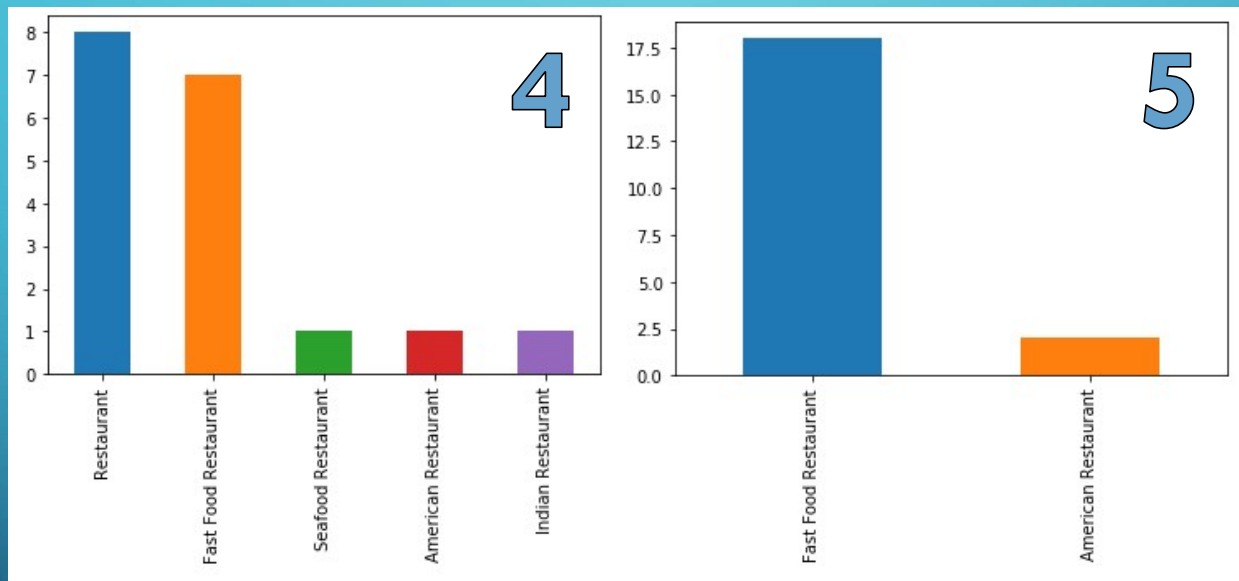


Create the cluster
algorithm

FREQUENCIES OF CLUSTER



FREQUENCIES OF CLUSTER



CONCLUSION

- We can see that the cluster 1 with 87 Neighborhoods, the first option to eat is in an American Restaurant, the cluster 2 with 20 Neighborhoods prefer a Chinese Restaurant like first option, Cluster 3 with 22 Neighborhoods his first and only option is an American Restaurant.
- Cluster 4 with 18 Neighborhoods and cluster 5 with 20 Neighborhoods they prefer Fast Food Restaurant to eat.
- And we can see the neighborhoods more problematic or danger are:
 1. BELAIR-EDISON
 2. DOWNTOWN
 3. FRANKFORD
 4. SANDTOWN-WINCHESTER
 5. UPTON