Final Assignment

Problem Statement

In our project, we attempt to help the new emigrants (both internal and external) by clustering the venue categories together. We will supply the model with all venue categories and all the cities of central Florida. After examining the clustering, we should be able to generate a set of recommendations to the new emigrants which should increase their chances to succeed with their business ideas.

Data Description

Data	Data Source
Latitude and longitude of Florida	https://www.mapsofworld.com/usa/states/florida/lat-long.html
Venue and frequency per FL county	Foursquare
Cities list	https://en.wikipedia.org/wiki/List_of_municipalities_in_Florida.

Methodology

kmeans = KMeans(n_clusters=kclusters, random_state=0).fit(CentralFL_grouped_clustering)

	Venue Category	1st Crowded City with this Venue	2nd Crowded City with this Venue	3rd Crowded City with this Venue	4th Crowded City with this Venue	5th Crowded City with this Venue	6th Crowded City with this Venue	7th Crowded City with this Venue	8th Crowded City with this Venue	9th Crowded City with this Venue	10th Crowded City with this Venue
0	American Restaurant	Umatilla city	Altamonte Springs city	Treasure Island city	Holly Hill city	Fort Meade city	Frostproof city	Fruitland Park city	Gulfport city	Haines City city	Kissimmee city
1	Aquarium	Longwood city	Winter Haven city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city
2	Art Gallery	Belleair Beach city	Winter Park city	Edgewood city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city
3	Asian Restaurant	Clermont city	Seminole city	Indian Harbour Beach city	Winter Park city	Fort Meade city	Frostproof city	Fruitland Park city	Gulfport city	Haines City city	Holly Hill city
4	Automotive Shop	Longwood city	Altamonte Springs city	Winter Garden city	Eagle Lake city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city

Results (1 -5)

	Venue Category	4th Crowded City with this Venue	5th Crowded City with this Venue	6th Crowded City with this Venue	7th Crowded City with this Venue	8th Crowded City with this Venue	9th Crowded City with this Venue	10th Crowded City with this Venue
1	Aquarium	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city
4	Automotive Shop	Eagle Lake city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city
57	Health Food Store	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Indian Harbour Beach city	Holly Hill city
60	Hobby Shop	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city
96	Platform	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city

Results (2 -5)

Cluster Labels	Venue Category	1st Crowded City with this Venue	2nd Crowded City with this Venue	3rd Crowded City with this Venue	4th Crowded City with this Venue	5th Crowded City with this Venue	6th Crowded City with this Venue	7th Crowded City with this Venue	8th Crowded City with this Venue	9th Crowded City with this Venue	10th Crowded City with this Venue
6	1	Baby Store	Altamonte Springs city	Winter Haven city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city
22	1	Clothing Store	Clermont city	Altamonte Springs city	Treasure Island city	Holly Hill city	Fort Meade city	Frostproof city	Fruitland Park city	Gulfport city	Haines City city	Indian Harbour Beach city
27	1	Cosmetics Shop	Clermont city	Kissimmee city	Winter Park city	Edgewood city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Indian Harbour Beach city
47	1	Gift Shop	Altamonte Springs city	Winter Haven city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city

Results (3 -5)

	Cluster Labels	Venue Category	1st Crowded City with this Venue	2nd Crowded City with this Venue	3rd Crowded City with this Venue	4th Crowded City with this Venue	5th Crowded City with this Venue	6th Crowded City with this Venue	7th Crowded City with this Venue	8th Crowded City with this Venue	9th Crowded City with this Venue	10th Crowded City with this Venue
38	2	Event Space	Treasure Island city	Winter Park city	Eagle Lake city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city
55	2	Hardware Store	Treasure Island city	Clermont city	Winter Park city	Holly Hill city	Fort Meade city	Frostproof city	Fruitland Park city	Gulfport city	Haines City city	Indian Harbour Beach city
62	2	Hot Dog Joint	Treasure Island city	Winter Park city	Eagle Lake city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city
63	2	Hotel	Treasure Island city	Altamonte Springs city	Eagle Lake city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city	Holly Hill city

Results (4 -5)

	Cluster Labels	Venue Category	1st Crowded City with this Venue	2nd Crowded City with this Venue	3rd Crowded City with this Venue	4th Crowded City with this Venue	5th Crowded City with this Venue	6th Crowded City with this Venue	7th Crowded City with this Venue	8th Crowded City with this Venue	9th Crowded City with this Venue	10th Crowded City with this Venue
0	3	American Restaurant	Umatilla city	Altamonte Springs city	Treasure Island city	Holly Hill city	Fort Meade city	Frostproof city	Fruitland Park city	Gulfport city	Haines City city	Kissimmee city
2	3	Art Gallery	Belleair Beach city	Winter Park city	Edgewood city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city
3	3	Asian Restaurant	Clermont city	Seminole city	Indian Harbour Beach city	Winter Park city	Fort Meade city	Frostproof city	Fruitland Park city	Gulfport city	Haines City city	Holly Hill city
5	3	BBQ Joint	Tampa city	Fort Meade city	Kissimmee city	Titusville city	Plant City city	Winter Park city	Edgewood city	Frostproof city	Fruitland Park city	Gulfport city

Results (5 -5)

Cluster Labels		Venue Category	1st Crowded City with this Venue	2nd Crowded City with this Venue	3rd Crowded City with this Venue	4th Crowded City with this Venue	5th Crowded City with this Venue	6th Crowded City with this Venue	7th Crowded City with this Venue	8th Crowded City with this Venue	9th Crowded City with this Venue	10th Crowded City with this Venue
28	4	Cuban Restaurant	Cape Canaveral city	Winter Park city	Edgewood city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city
86	4	Moving Target	Cape Canaveral city	Winter Park city	Edgewood city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city
103	4	Rental Car Location	Cape Canaveral city	Winter Park city	Edgewood city	Lakeland city	Lake Mary city	Lake Helen city	Lake Buena Vista city	Lake Alfred city	Kissimmee city	Indian Harbour Beach city