Moroccan Studies For cities

Machine Learning Using K-means

Moroccan cities and their GEOLOCATIONS:

Out[11]:

	City	Latitude	Longitude	Country
0	Casablanca	33.599200	-7.620000	Morocco
1	Rabat	34.025300	-6.836100	Morocco
2	Fes	34.043300	-5.003300	Morocco
3	Tangier	35.784700	-5.812500	Morocco
4	Marrakech	31.629500	-7.981100	Morocco
...	...	...	...	...
78	Laayoune	27.125286	-13.162500	Morocco
79	Guelmim	28.986960	-10.057380	Morocco
80	Boujdour	26.127580	-14.482140	Morocco
81	Dakhla	23.704895	-15.943179	Morocco
82	Samara	26.741856	-11.678367	Morocco

Moroccan map

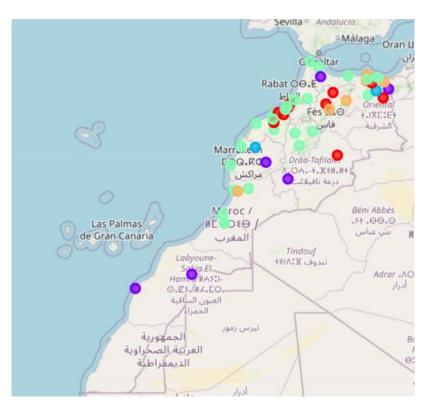# Cities of Morocco

Liste of every Café shop or restaurant in morocco using Foursquare API

	name	categories	lat	lng
0	La Sqala: Café Maure	Moroccan Restaurant	33.602983	-7.619430
1	Casa Jose	Tapas Restaurant	33.597823	-7.615341
2	Six PM	Hotel Bar	33.595940	-7.618684
3	La Taverne Du Dauphin	Seafood Restaurant	33.598776	-7.615062
4	Bab Marrakech	Historic Site	33.596756	-7.617180
5	Cafe M	Bar	33.595592	-7.618710
6	Hyatt Regency Casablanca	Hotel	33.596195	-7.618708
7	Hotel Central	Roof Deck	33.600092	-7.617260
8	Golden China	Chinese Restaurant	33.597163	-7.615294
9	McDonald's	Fast Food Restaurant	33.595309	-7.620003
10	Café Excelsior	Coffee Shop	33.596299	-7.616942
11	Les Saisons Hotel Casablanca	Hotel	33.597077	-7.615250
12	Jamaa Souk Plaza	Plaza	33.597095	-7.617795
13	Le Cardinal	French Restaurant	33.595503	-7.616968
14	Place des Nations Unies	Plaza	33.595537	-7.617906
15	McDonald's	Fast Food Restaurant	33.595573	-7.617111
16	Tramway Station Place Nations Unies	Tram Station	33.595376	-7.618221

Clustered Moroccan Cities By K-means ML-Algorithme

The 4 Principales Clusters

Cluster_1

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morocco_denc_merged.loc[morocco_denc_merged['Cluster Labels'] == 0, morocco_denc_merged.columns[[1] + list(range(5, morocco_denc_merged.shape[1]))]]
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	Latitude	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
2	34.0433	Restaurant	Café	Train Station	Yoga Studio	Fast Food Restaurant	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner
5	34.0500	Café	Yoga Studio	Restaurant	Pizza Place	Cocktail Bar	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner
11	33.9234	Travel Agency	Café	Diner	Yoga Studio	Fish & Chips Shop	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Electronics Store
14	33.6833	Beach	Café	Flea Market	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store	Fast Food Restaurant	Fish & Chips Shop
20	33.2700	Italian Restaurant	Café	Fast Food Restaurant	Coffee Shop	Yoga Studio	Fish & Chips Shop	Cosmetics Shop	Department Store	Dessert Shop	Diner
29	31.9319	Café	Afghan Restaurant	Bus Station	Fast Food Restaurant	Coffee Shop	Fish & Chips Shop	Cosmetics Shop	Department Store	Dessert Shop	Diner
36	33.6122	Café	Rock Climbing Spot	Fast Food Restaurant	Yoga Studio	Cocktail Bar	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner
40	34.3100	Art Gallery	Café	Steakhouse	Yoga Studio	Flea Market	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store
42	34.9396	Performing Arts Venue	Café	Boat or Ferry	Fast Food Restaurant	Yoga Studio	Coffee Shop	Cosmetics Shop	Department Store	Dessert Shop	Diner
58	34.5358	Mountain	Café	Flea Market	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store	Fast Food Restaurant	Fish & Chips Shop

Cluster_2

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morocco_denc_merged.loc[morocco_denc_merged['Cluster Labels'] == 1, morocco_denc_merged.columns[[1] + list(range(5, morocco_denc_merged.shape[1]))]]
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	Latitude	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
4	31.629500	Hotel	Bed & Breakfast	Moroccan Restaurant	Museum	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store	Fast Food Restaurant
7	34.686700	Hotel	Seafood Restaurant	Yoga Studio	Fish & Chips Shop	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store
33	30.916700	Hotel	Restaurant	Supermarket	Middle Eastern Restaurant	Fish & Chips Shop	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner
56	35.171400	Bed & Breakfast	Hotel	Café	Park	Fish & Chips Shop	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store
80	26.127580	Resort	Hotel	Fish & Chips Shop	Coffee Shop	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store
82	26.741856	Hotel	History Museum	Yoga Studio	Fish & Chips Shop	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store

Cluster_3

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morocco_denc_merged.loc[morocco_denc_merged['Cluster Labels'] == 2, morocco_denc_merged.columns[[1] + list(range(5, morocco_denc_merged.shape[1]))]]
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	Latitude	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
34	32.2500	Train Station	Yoga Studio	Flea Market	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store	Fast Food Restaurant
41	34.5853	Train Station	Yoga Studio	Flea Market	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store	Fast Food Restaurant

Cluster_4

```
morocco_denc_merged.loc[morocco_denc_merged['Cluster Labels'] == 3, morocco_denc_merged.columns[[1] + list(range(5, morocco_denc_merged.shape[1]))]]
```

	Latitude	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	33.59920	Hotel	Plaza	Fast Food Restaurant	Tram Station	Bar	Chinese Restaurant	Hotel Bar	Roof Deck	Seafood Restaurant	Moroccan Restaurant
1	34.02530	Hotel	Moroccan Restaurant	Bed & Breakfast	Hostel	Historic Site	Diner	Nightclub	Dessert Shop	Department Store	Coffee Shop
3	35.78470	Hotel	Café	Moroccan Restaurant	Scenic Lookout	Hostel	Tea Room	Fast Food Restaurant	Market	Park	Plaza
8	34.25000	Snack Place	Coffee Shop	Convenience Store	Train Station	Yoga Studio	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store
9	30.41670	Electronics Store	Pizza Place	Pharmacy	Cosmetics Shop	Fried Chicken Joint	Massage Studio	Scenic Lookout	Yoga Studio	Convenience Store	Department Store
10	35.56670	Historic Site	Movie Theater	Art Museum	Arts & Crafts Store	Garden	Yoga Studio	Cosmetics Shop	Department Store	Dessert Shop	Diner
13	32.28330	Pizza Place	Arts & Crafts Store	Fast Food Restaurant	Coffee Shop	Yoga Studio	Fish & Chips Shop	Cosmetics Shop	Department Store	Dessert Shop	Diner
15	33.23330	Bakery	Yoga Studio	Flea Market	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop	Diner	Electronics Store	Fast Food Restaurant
17	35.16670	Tailor Shop	Flea Market	Shopping Mall	Yoga Studio	Fast Food Restaurant	Coffee Shop	Convenience Store	Cosmetics Shop	Department Store	Dessert Shop
19	33.00230	Resort	Flea Market	Café	Diner	Snack Place	Pizza Place	Historic Site	Italian Restaurant	Hookah Bar	Garden