



Portland Trip Planner

Applied Data Science Capstone by IBM/Coursera



Introduction

- ❖ Travel is an interesting and exciting experience.
- ❖ Planning the trip on the other hand is time consuming or even stressful.
- ❖ This project aims at making planning a trip easier and streamlining the process.
- ❖ People who love traveling will benefit from the idea.



Data

- ❖ We will take Portland, Oregon as the destination.
- ❖ Attraction data will be from Google travel website.
- ❖ Restaurant data will be from FourSquare



Dataframe of Attractions

	place	rating	reviews	latitude	longitude
0	Pittock Mansion	4.6	4965	45.5252	-122.716
1	Portland Japanese Garden	4.5	4967	45.5187	-122.708
2	Lan Su Chinese Garden	4.6	2488	45.5257	-122.673
3	OMSI	4.5	6932	45.5083	-122.666
4	Oregon Zoo	4.5	14743	45.5098	-122.713
5	International Rose Test Garden	4.7	4753	45.5191	-122.705
6	Portland Art Museum	4.7	3964	45.5162	-122.684
7	Washington Park	4.7	9618	45.5155	-122.706
8	Pioneer Courthouse Square	4.4	6062	45.5189	-122.679
9	Governor Tom McCall Waterfront	4.5	6210	45.5204	-122.67

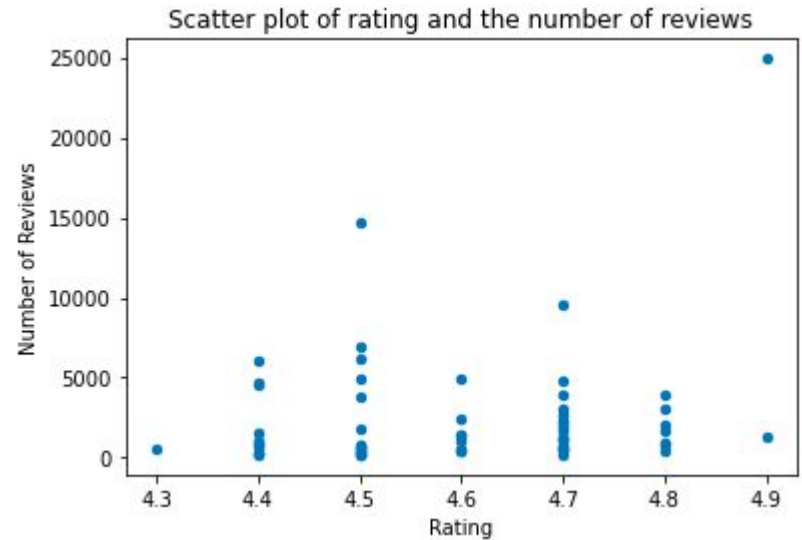


DataFrame of Restaurants

	name	categories	lat	lng	id
0	Khao Soy Thai Restaurant	Thai Restaurant	45.524726	-122.699428	55c6d381498e9a5c8f034964
1	수라 Korean Restaurant	Korean Restaurant	45.525406	-122.698562	510dd94be4b01d20ece508a7
2	Thai Bloom! Portland: Restaurant and Catering	Restaurant	45.525288	-122.698662	5be4088b625a66002cf315fe
3	August Moon Chinese	Chinese Restaurant	45.525643	-122.698497	4aa30efaf964a5202c4320e3
4	Hobo's Restaurant & Lounge	Bar	45.524300	-122.673258	40b13b00f964a5208bf51ee3
5	Chen's Good Taste Restaurant	Chinese Restaurant	45.523531	-122.674297	4ad781f6f964a520950b21e3
6	Al-Amir Lebanese Restaurant	Middle Eastern Restaurant	45.520157	-122.673887	41e46880f964a520d51e1fe3
7	Scooter McQuade's Restaurant & Bar	Bar	45.522329	-122.684916	40b13b00f964a520f1f51ee3
8	Wilf's Restaurant	American Restaurant	45.528633	-122.676461	4bf19a6c189f0f47d875b762
9	Kells Irish Restaurant & Pub	Irish Pub	45.521579	-122.672568	4a915f09f964a520011a20e3

Analysis

- Many attractions have the same rating.
- But the number of reviews are in big discrepancy.





Methodology

- ❖ Use K-Means cluster to combine rating and the number of reviews generating 5 labels of popularity.

	place	rating	reviews	latitude	longitude	popularity
0	Pittock Mansion	4.6	4965	45.5252	-122.716	3
1	Portland Japanese Garden	4.5	4967	45.5187	-122.708	3
2	Lan Su Chinese Garden	4.6	2488	45.5257	-122.673	1
3	OMSI	4.5	6932	45.5083	-122.666	3
4	Oregon Zoo	4.5	14743	45.5098	-122.713	4
5	International Rose Test Garden	4.7	4753	45.5191	-122.705	1
6	Portland Art Museum	4.7	3964	45.5162	-122.684	1
7	Washington Park	4.7	9618	45.5155	-122.706	4
8	Pioneer Courthouse Square	4.4	6062	45.5189	-122.679	3
9	Governor Tom McCall Waterfront	4.5	6210	45.5204	-122.67	3

Result - K-Mean Labels

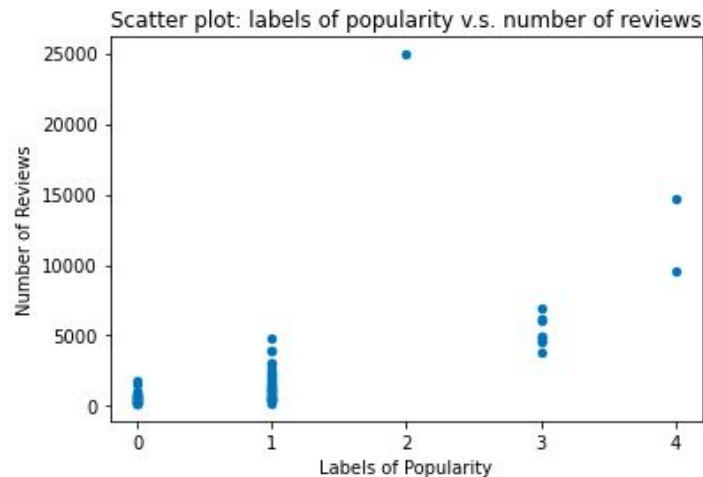
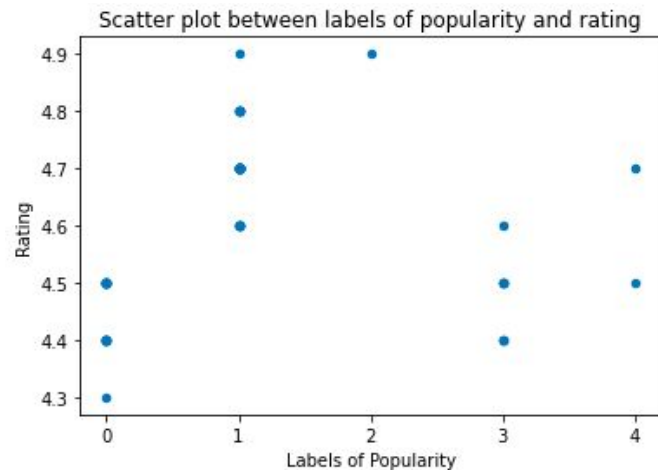
Label 0: low rating and low number of reviews

Label 1: higher rating but lower number of reviews

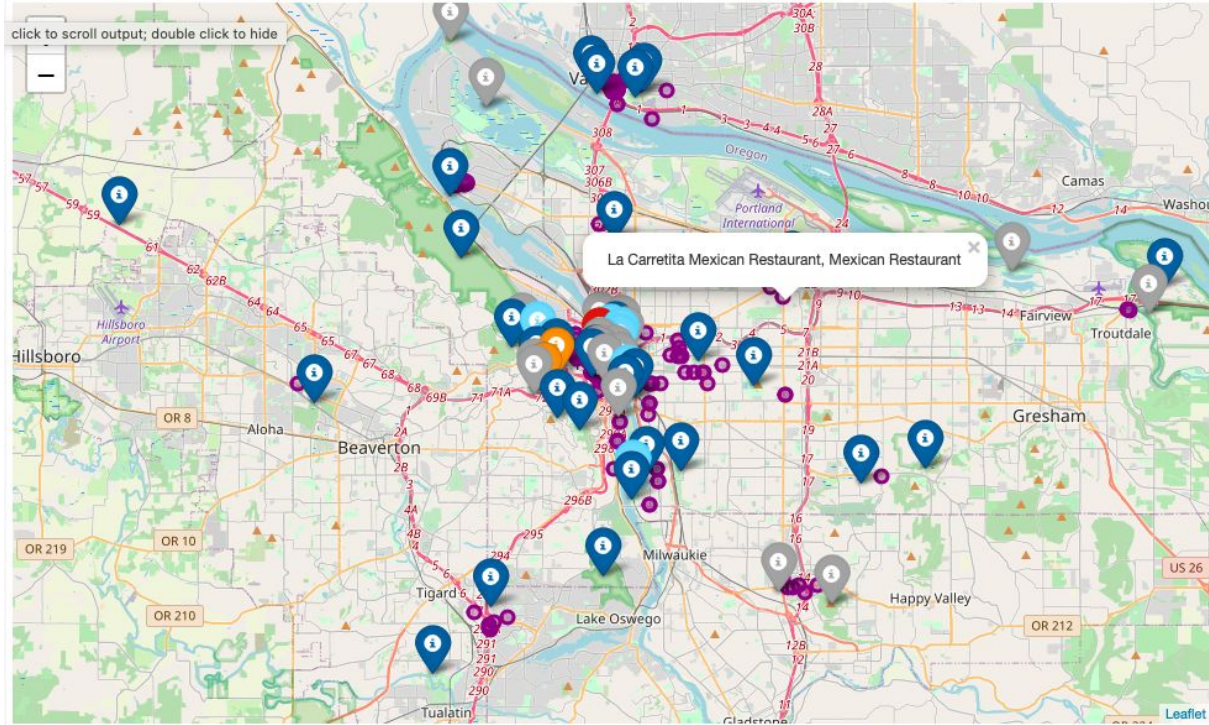
Label 2: very high rating and very high number of reviews

Label 3: lower rating but higher number of reviews

Label 4: average rating but high number of reviews



Result - Folium Map





Discussion

- ❖ Attractions of label 2 is the first choice.
- ❖ Attractions of label 0 can be skipped firstly if needed.
- ❖ Attractions of label 4 is the second choices.
- ❖ Attractions between label 1 and label 3 are hard to choose.



Conclusion

- ❖ Labels of popularity can help pick attractions from a long list.
- ❖ A map showing both attractions and nearby restaurants really saves time from collecting data online.
- ❖ To-see, to-eat and geographical location are integrated on a map is very neat.