Final Report: How are similar are Prague 1 and Prague 2 with other neighborhoods around?

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Problem Business:

The idea is that Prague is the main city from the Czech Republic, this city has 21 neighborhood, the idea is this city become crowded from tourist, making noise in the nights and mess, this happen in Prague 1 and Prague , where is the major dense concentration of tourist, so this is problem for a residents who live this areas, they complaint about the bad behaviour from the visitors, but, this areas has good restaurants,pubs, which can be a big problem , when the resident has the idea to move to other area where is less tourism,because the think they can lose the most valuable possibility. After collecting data and apply some machine techniques is possible to show some findings.

Data

The data use for this analysis were the 19 neighborhoods, where was display the localization of all them,like latitude and longitude. Also information about venues where collectected from the API foursquare.

Metology

For the analysis and the findings were used the machine learning algorithm call clustering kmeans, which has like aim to group the point of a set according to the similarities, that this elements share within them,then group them by given them a centroid, and thanks to this the elements can be grouped due to the distance the elements has with the centroid, also big separation from different centroids.

For the purpose of this analysis, whe perform use 5 clusters, we run the algorithm Kmeans, by thanks to the library in python, sklit, its possible to used the method Kmeans, to made the clustering

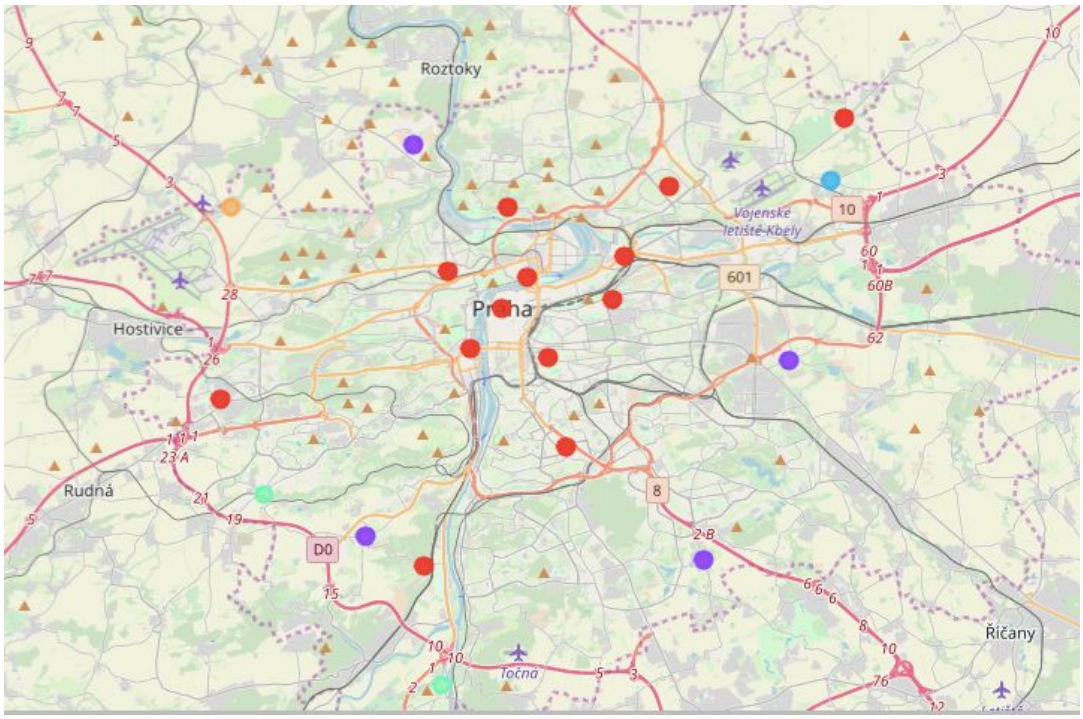
Then library folium , were useful to visualization, is a python library, where is possible se maps, also it very nice when is come to visualize clusters about localization. In order to show every localization is need to have the latitude and longitude of every localization.

Then the pandas library, to put all the localization in tables, in columns and in rows, in this case the columns has, the neighborhoods, in order to map every point in the map for tu visualize the the clusters.

We used the API foursquare which is localization provider, in this case we analyze , the the most commun venues in every, neighborhood, in then we transfer it to dataframes, from here were possible to run the for the do the clustering algorithm.

Results:

The following map shows points with different color, the are used to represent the similarities of the differents neighborhood .



The Following figure we can see the the number of the cluster and the the neighborhood, same number of cluster, means the the neighborhood share similarities, as well mention that the Praha(Prague 1) and Praha 2 which are the big amount of tourist, share similarities which the other Praha neighborhoods, were less tourist are present, similarities, means good restaurants,pubs.

	Neighborhood	latitude	longitude	Cluster Labels
0	Praha	50.087465	14.421254	0
1	Praha 2	50.072812	14.442024	0
2	Praha 3	50.090003	14.471909	0
3	Praha 4	50.046613	14.450470	0
4	Praha 5	50.075633	14.406201	0
5	Praha 6	50.098769	14.396196	0
6	Praha 7	50.096796	14.432307	0
7	Praha 8	50.102925	14.476930	0
8	Praha 9	50.123480	14.497825	0
9	Přední Kopanina	50.117339	14.296376	4
10	Řeporyje	50.032336	14.311467	3
11	Satalice	50.125548	14.571787	2
12	Šeberov	50.013234	14.513637	1

Discussion:

On based to this results, we can see that are similarities with other neighborhoods in Prague, of course also are neighborhoods like Satalice,Seberov, that are far away from the center of Prague, but they have less tourist, but do not share similarities regarding to good pubs, good restaurants, the factor could be this are residential area and not so much venues are present in the are, in other word just places to live, then probably if you want to travel to a nice venue, you will need to go the other Prague neighborhoods that share similarities with Prague 1. So in the case is not recommended to choose this neighborhoods, to far from the center of Prague, because if the resident from Prague who is tired of the noise of the tourist in the night, but also enjoying the presences of good venues, they will end up with a new problem, no presence of good venues.

Conclusion

Prague 1 and Prague 2 are nice places to live,with good venues,but with big amount of tourist around, so if resident from this area decide to change the localization, it is possible to find other areas, that share similarities, small presence of tourist, more calm are, but with good venues as well.

But also there neighborhoods that has less tourist presents, but not do not share similarities with Prague 1 and Prague 1. When its comes about venues presence.This can end up in a next problem.

So as recommendation, the resident who decided to move to other neighborhood, the good news is the is possible to have to the presence of less tourist and nice venues.