The Battle of Neighborhoods

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Summary of Jinan and Qingdao

	Jinan	Qingdao
Prefecture-level area	10244km^2	11067km^2
Population	7321200	9290500
GDP	￥886.2 billion	￥1256.1 billion
Human Development Index	0.811	0.822
Position	36.38N 117.01E	36.5N 120.2E

Problem

- Compare the count of venues owned by eachborough of Jinan and Qingdao.

- K-means clustering.

- Choropleth and cluster map.

Data acquisition and cleaning

- ## Data sources

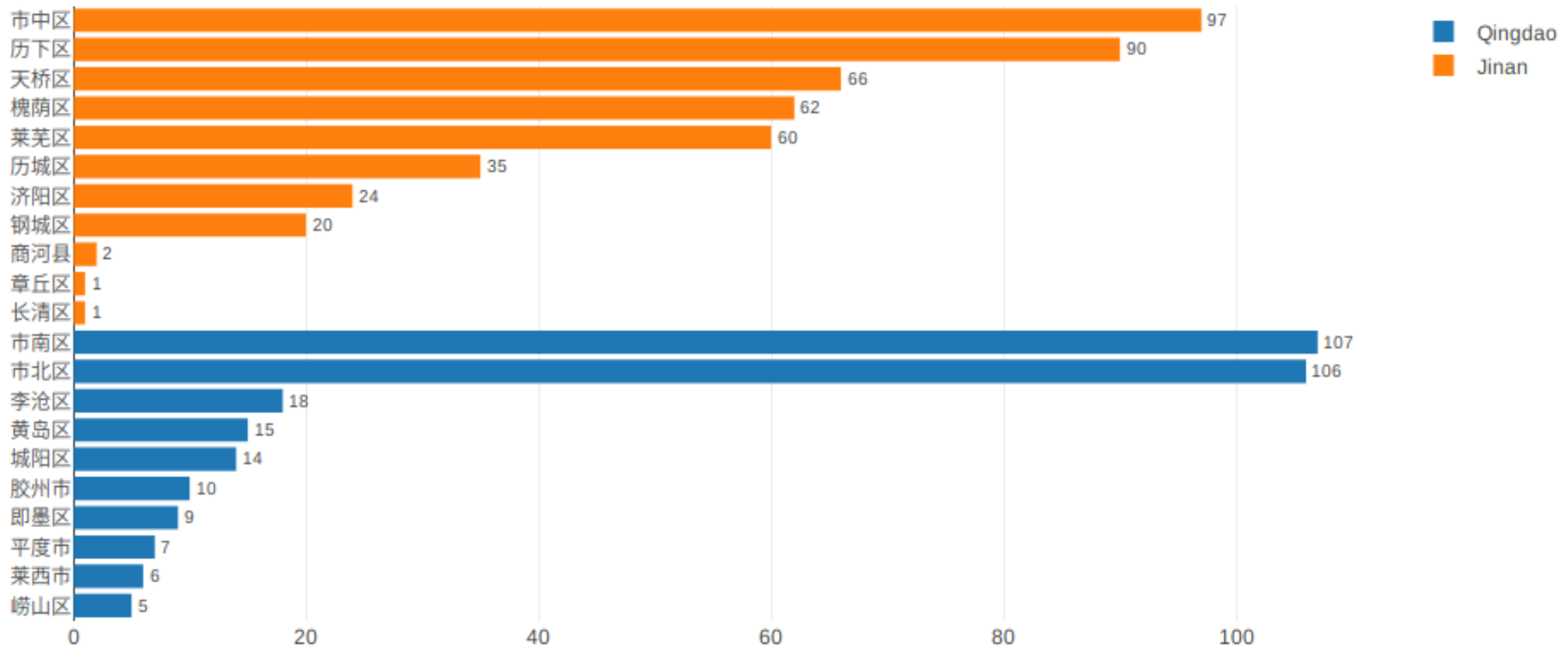 Foursquare, Autonavi, Aliyun

- ## Data cleaning

  The data is already tidy and clean.

- ## Feature selection

 Generate the 1st - 10th most common venues of each neighborhood.

Venues count comparison

Venues Count in each Borough of Qingdao and Jinan

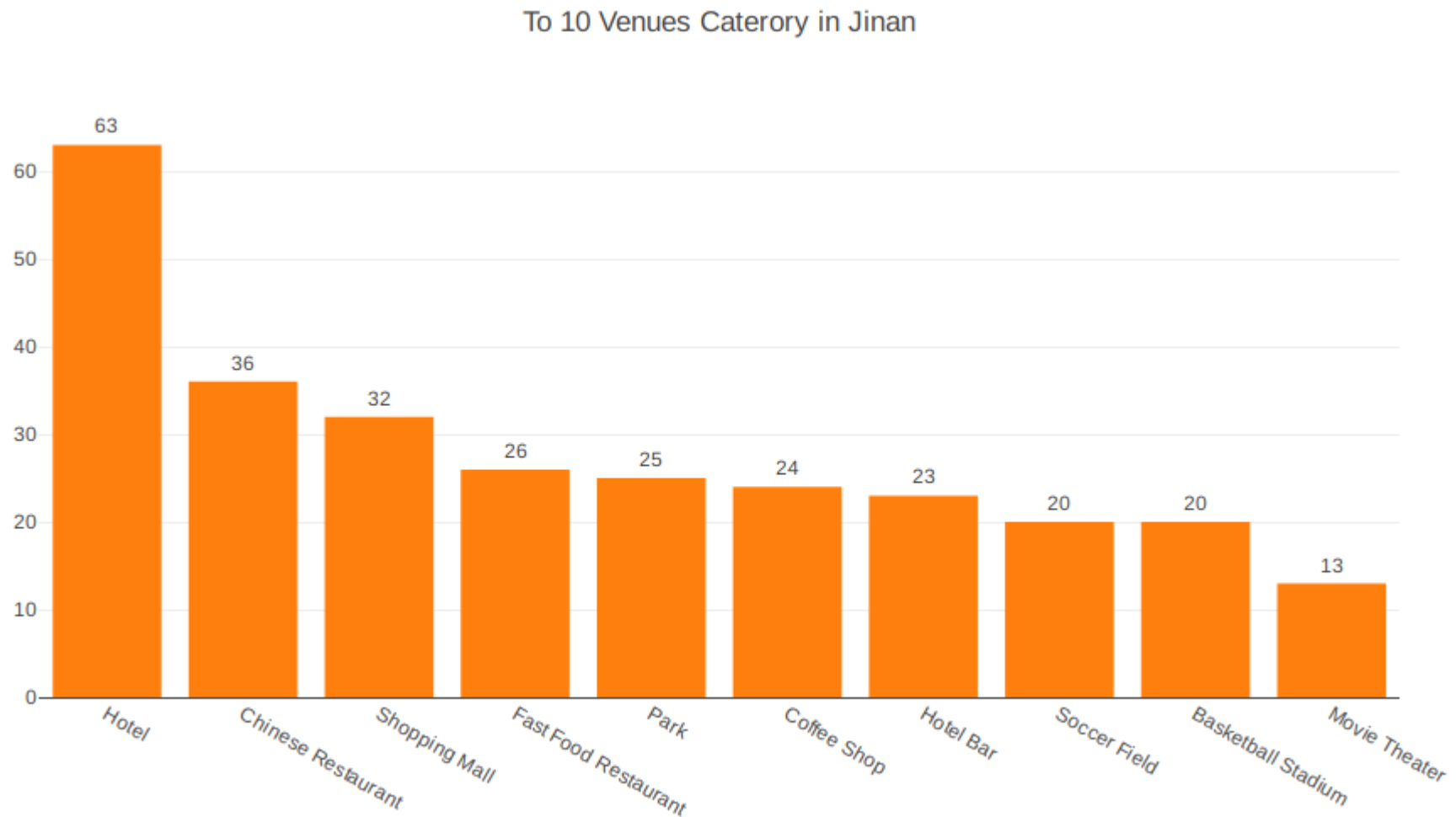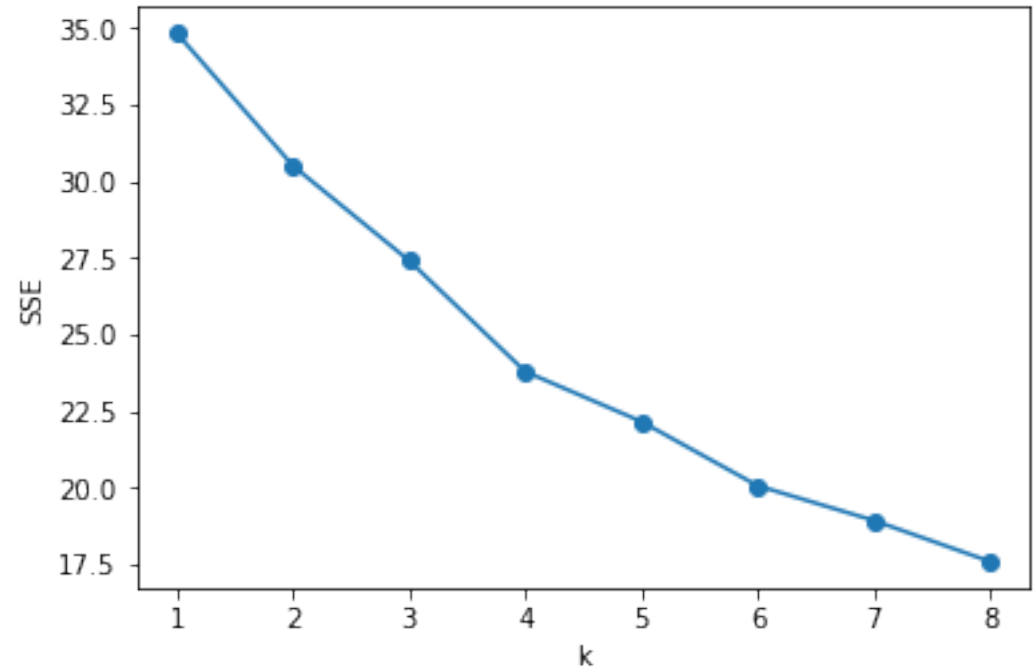| Borough	Count	Legend
市中区	97	Qingdao
历下区	90	Jinan
天桥区	66	
槐荫区	62	
莱芜区	60	
历城区	35	
济阳区	24	
钢城区	20	
商河县	2	
章丘区	1	
长清区	1	
市南区	107	
市北区	106	
李沧区	18	
黄岛区	15	
城阳区	14	
胶州市	10	
即墨区	9	
平度市	7	
莱西市	6	
崂山区	5	

Top 10 venues category in Qingdao

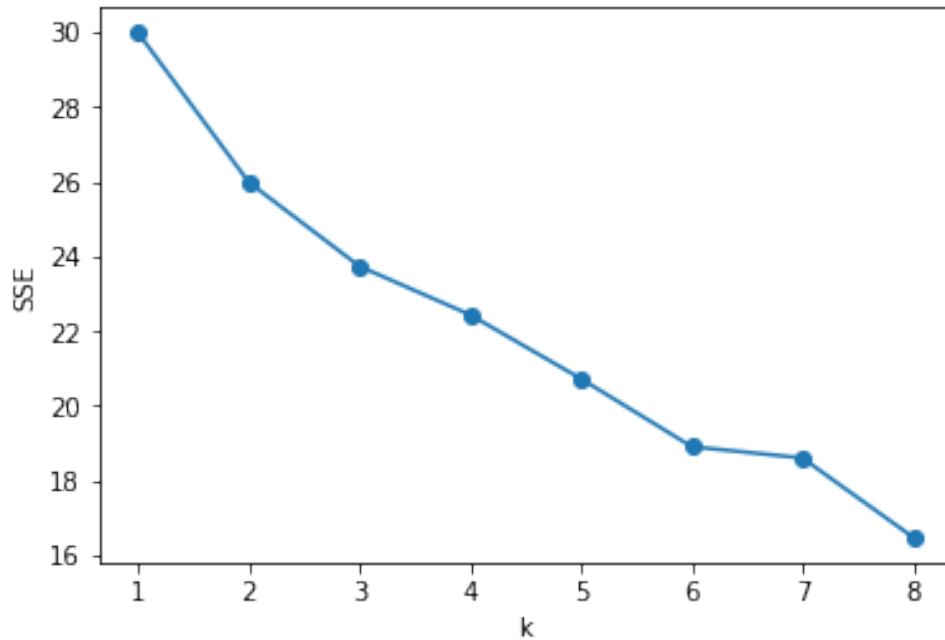Top 10 Venues Caterory in Qingdao

Top 10 venues category in Jinan
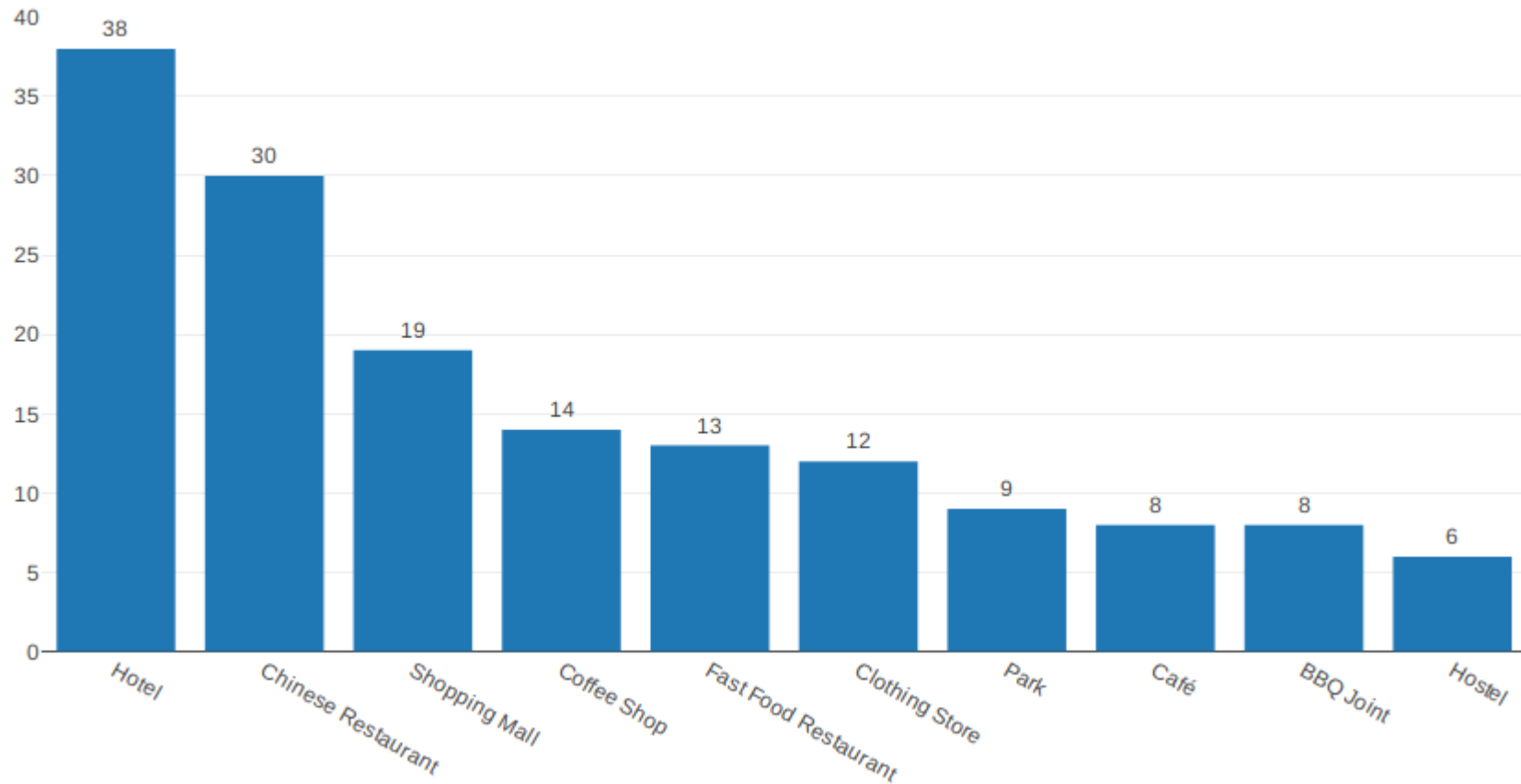
To 10 Venues Caterory in Jinan

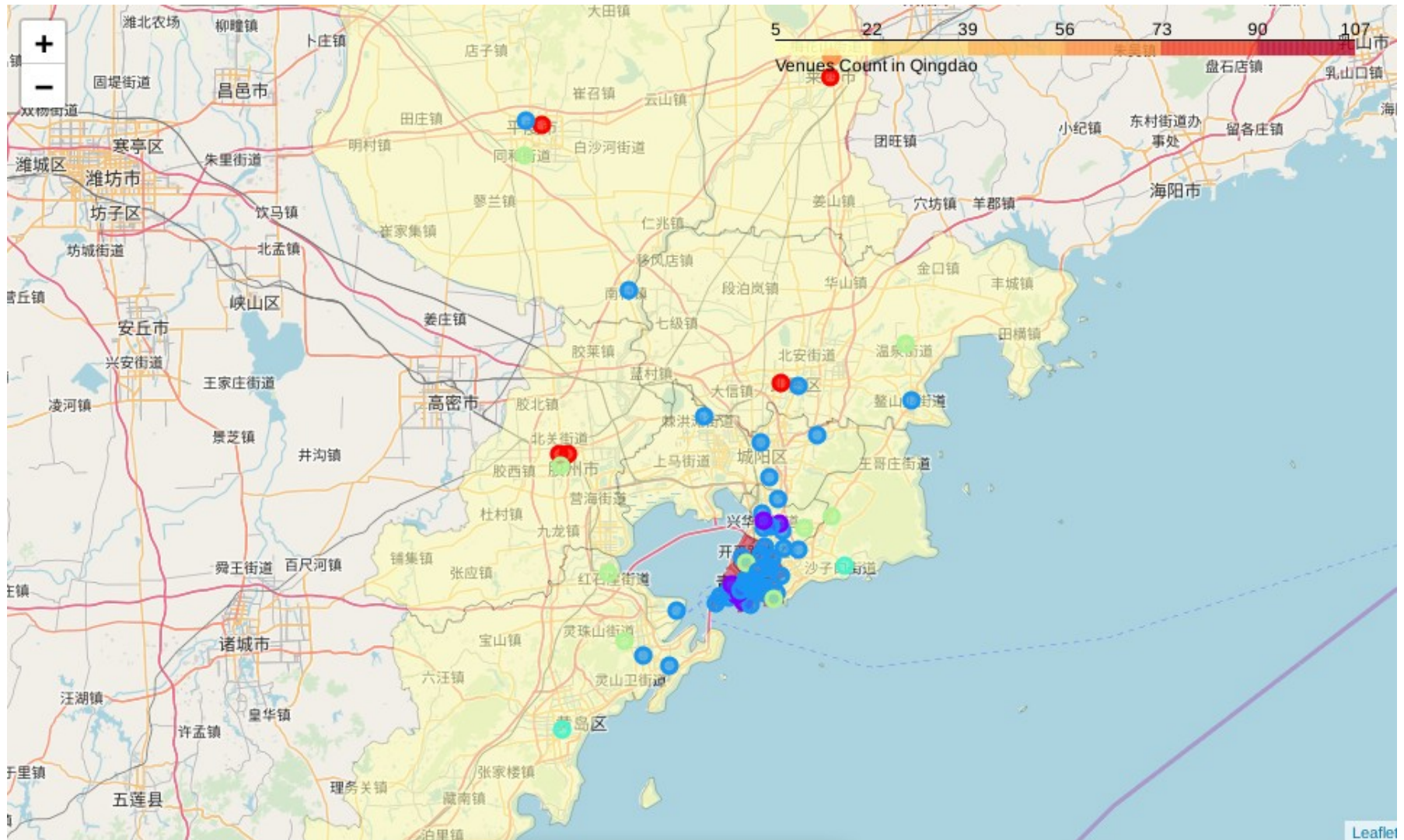# K-means clustering

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
Jinan	26	12	56	5	NA	NA
QIngdao	5	6	41	2	9	2

Choropleth and cluster map of Jinan
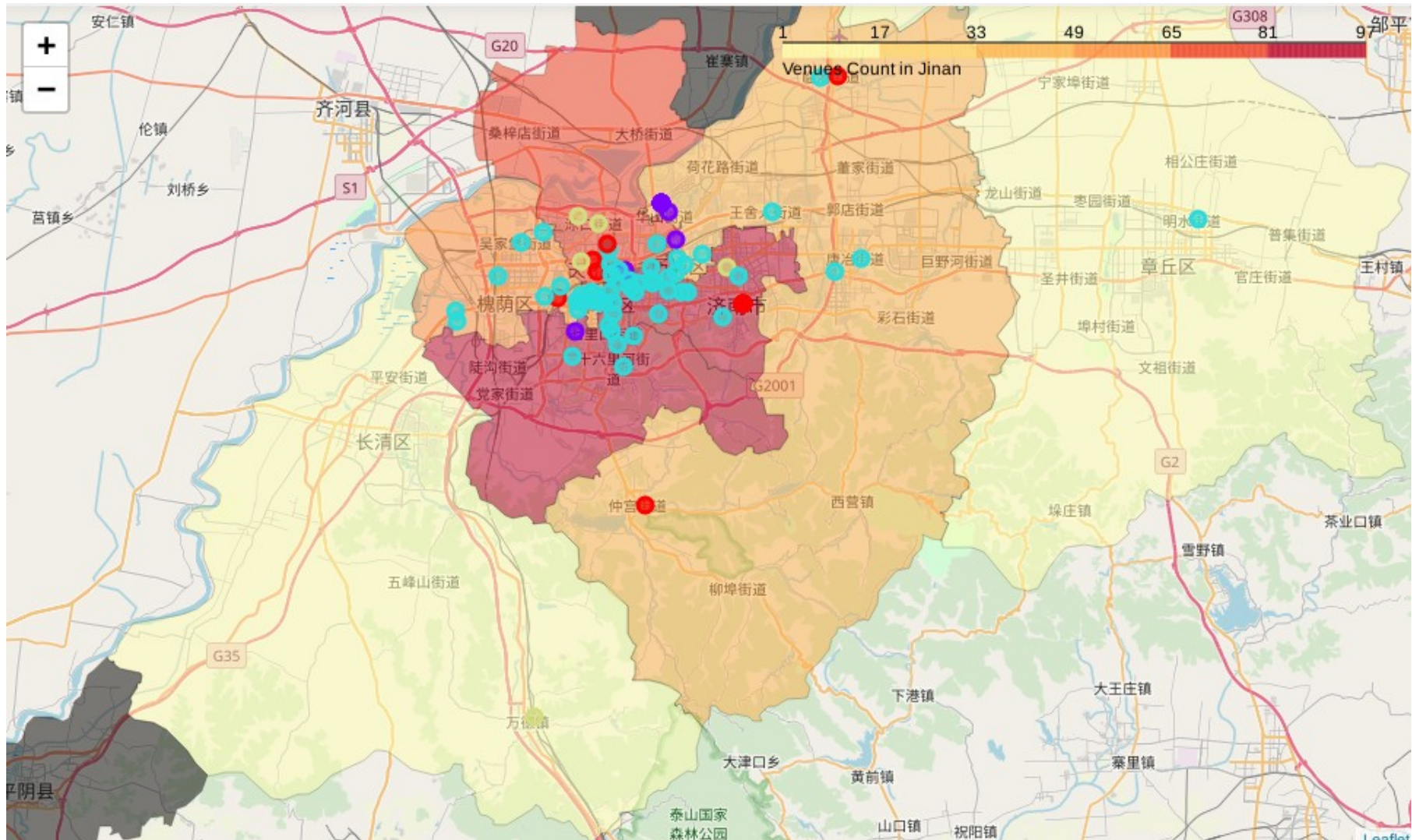
Choropleth and cluster map of Qingdao

Conclusions

- Jinan have more venues, and the differences between boroughs are small.

- Qingdao has fewer venues, with great differences among boroughs.

- Venues in both cities are concentrated in their respective city centres.

Future directions

- Foursquare cannot fully reflect the actual situation in China.

- The results of clustering based on k-means are not ideal, which need to be improved in the future.