

Induction/ Business Problem

We want to open a new restaurant in Washington. We want to find out the best location for the new restaurant. The suitable location could make things easier for the new business. Therefore, our aim is to take advantage of the data to decide the suitable location.

Data

First, we need to split Washington into different areas and determine the similarity among them. Then, we could easily group them into different clusters. We download the location data into a zip file from free online source. It contains many features including latitude, longitude etc.

Methodology

We are going to use the k-means clustering algorithm to find out each group in Washington. After that, we optimize the k which is 7 in the algorithm.

Results

We found out that the suitable location for the restaurant should be at cluster 0. It was shown on the last part of the code file.

Conclusion

We used the location data and machine learning algorithm which is k-means clustering to find out the suitable area for the new restaurant. Turns out that we should choose cluster 0 as the location. It would help the stakeholders to make a final decision.