CSE 4062 - Semester 2021

Intro to Data Science and Analytics

Delivery #5 - Descriptive Analytics

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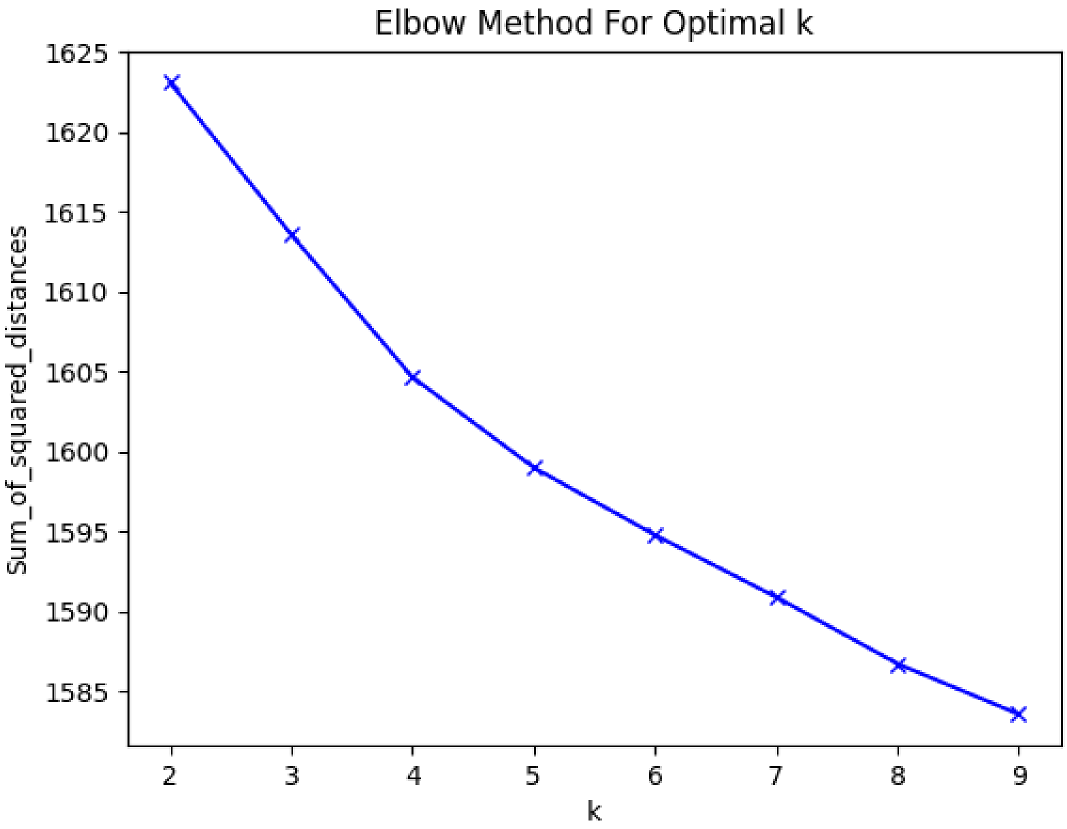
1 - Statistics

To find optimal K for k-means clustering we used the Elbow method. After finding the optimal K we created clusters and displayed most used words with WordCloud. As our datasets consist of the same topic most of the clusters got the same most used words. Most used ones change after the third ones.

1.1 - Yelp dataset

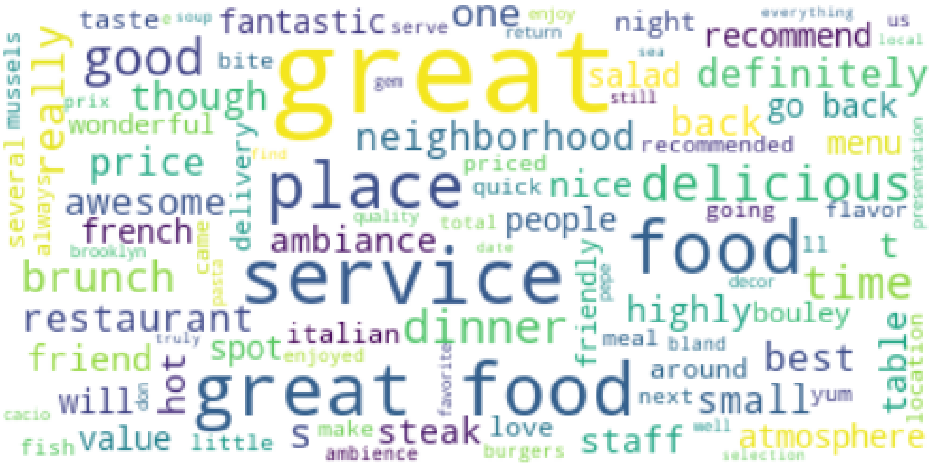
1.1.1 - Clustering Elbow method



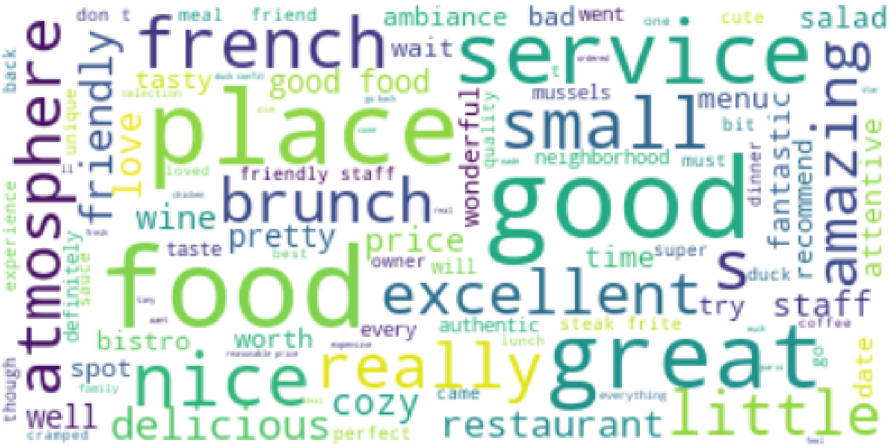
1.1.2 - Clusters

```
 id          cluster
1495         0
651          0
1459         0
1386         0
289          0
...    ...
1318         6
1319         6
1320         6
1312         6
595          6
[1800 rows x 2 columns]
```

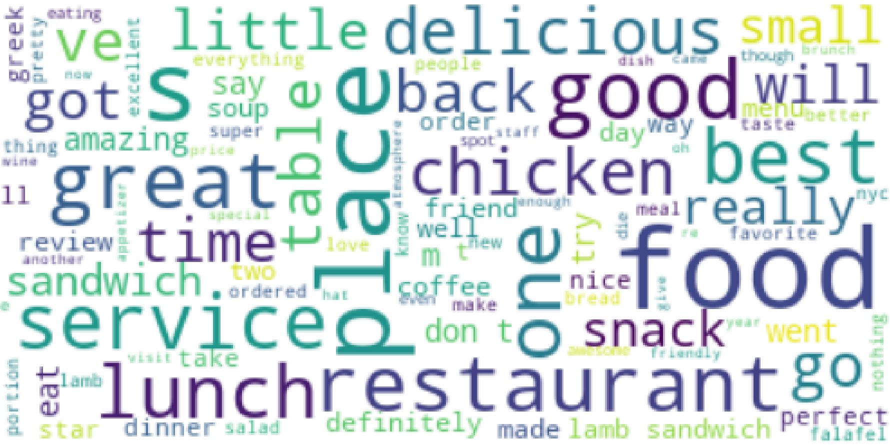
1.1.3 - Cluster 0



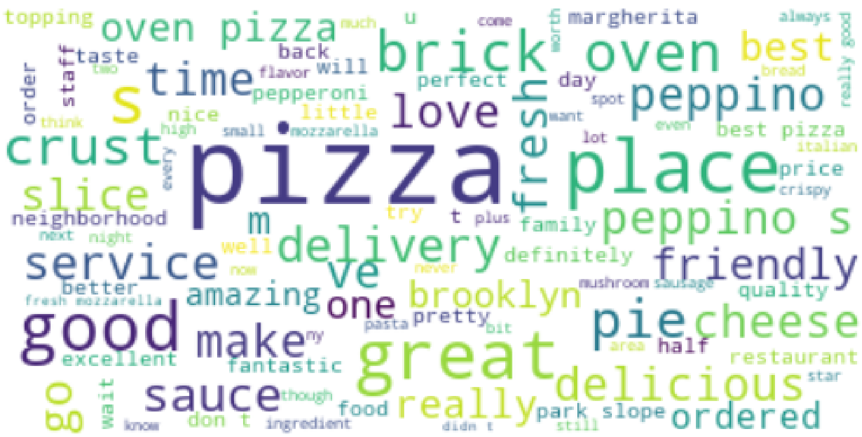
1.1.4 - Cluster 1



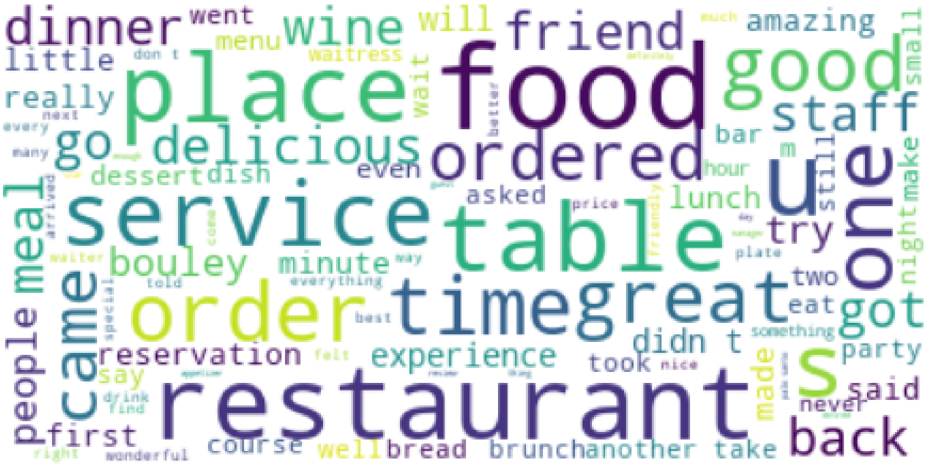
1.1.5 - Cluster 2



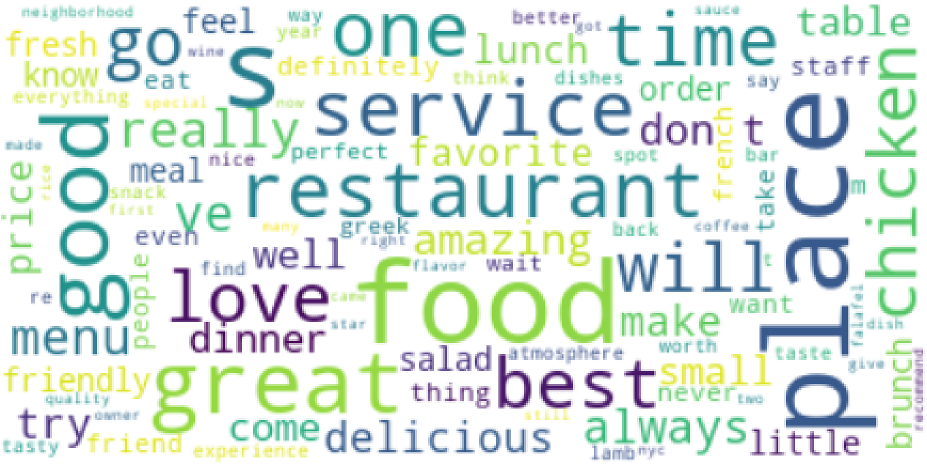
1.1.6 - Cluster 3



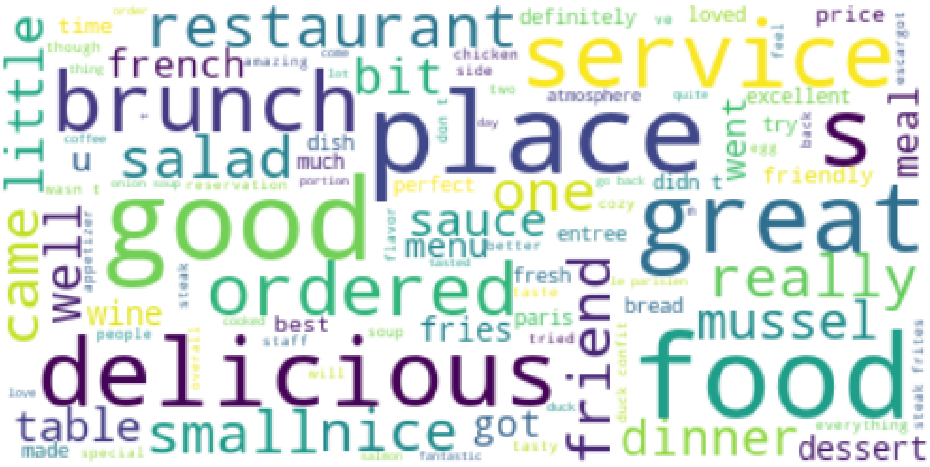
1.1.7 - Cluster 4



1.1.8 - Cluster 5

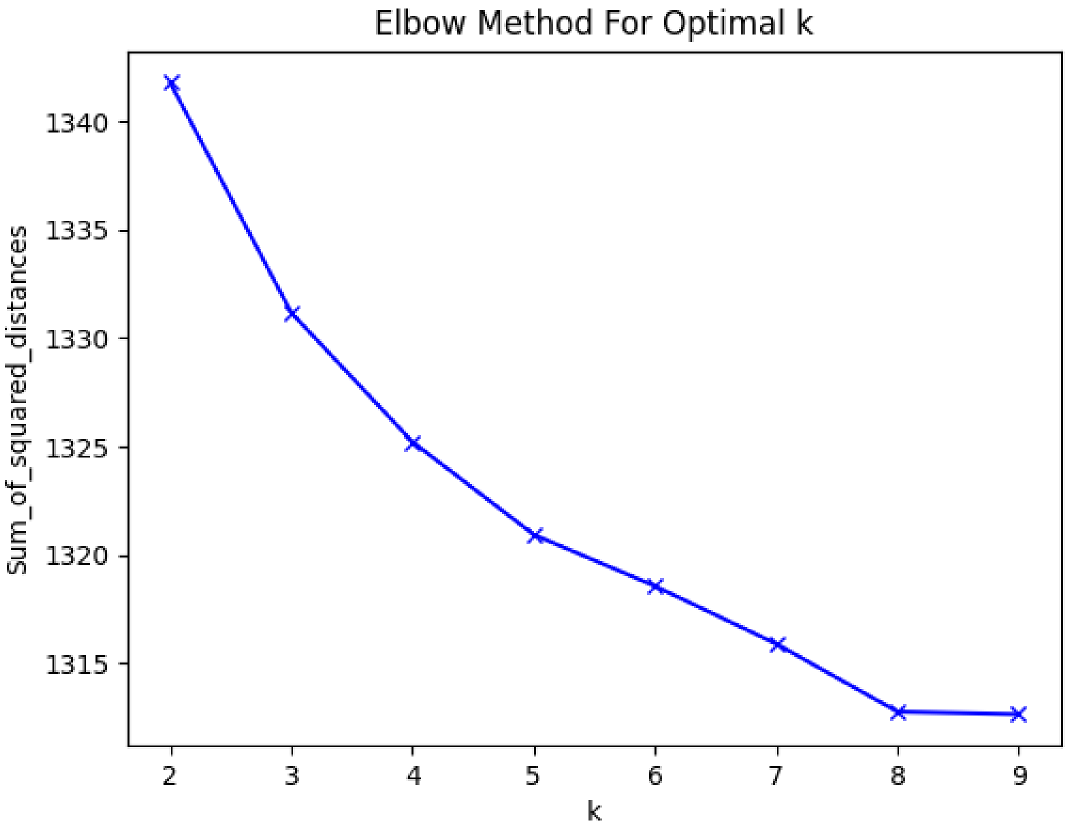


1.1.9 - Cluster 6



1.2 - Turk dataset

1.2.1 - Clustering Elbow method

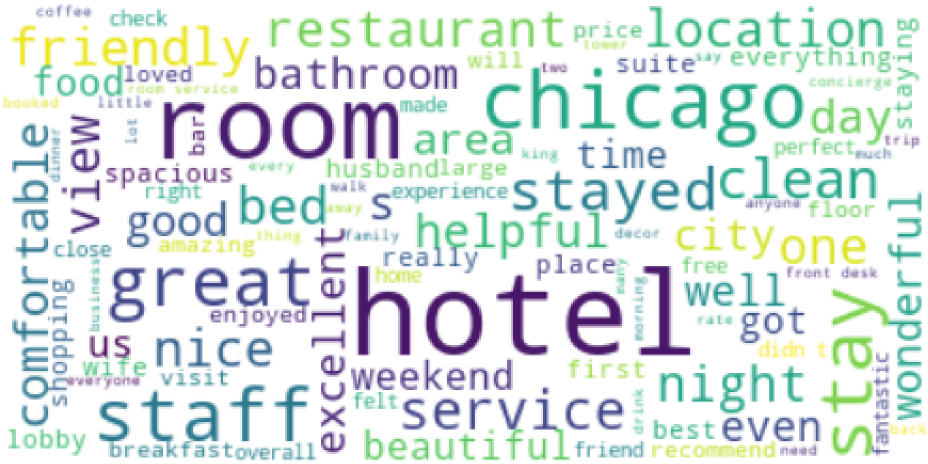


1.2.2 - Clusters

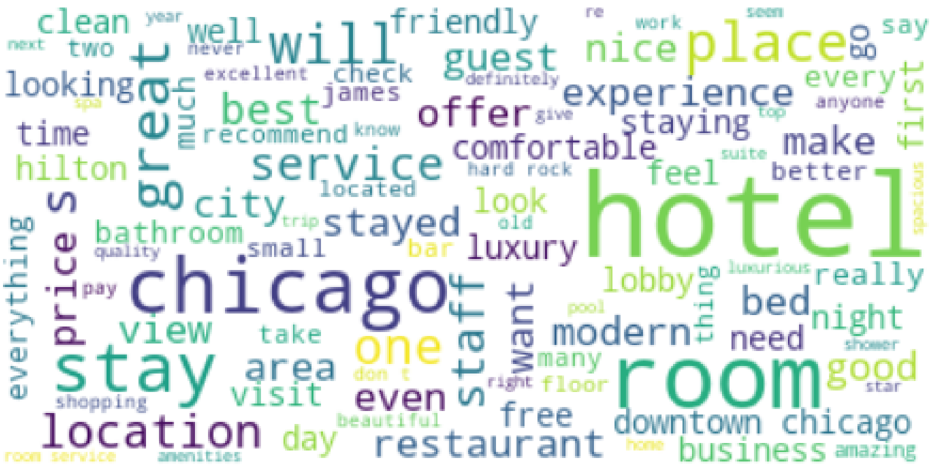
id	cluster
1599	0
1087	0
1090	0
1091	0
1096	0
...	...

```
1358        6
1355        6
994         6
1352        6
1125        6
[1600 rows x 2 columns]
```

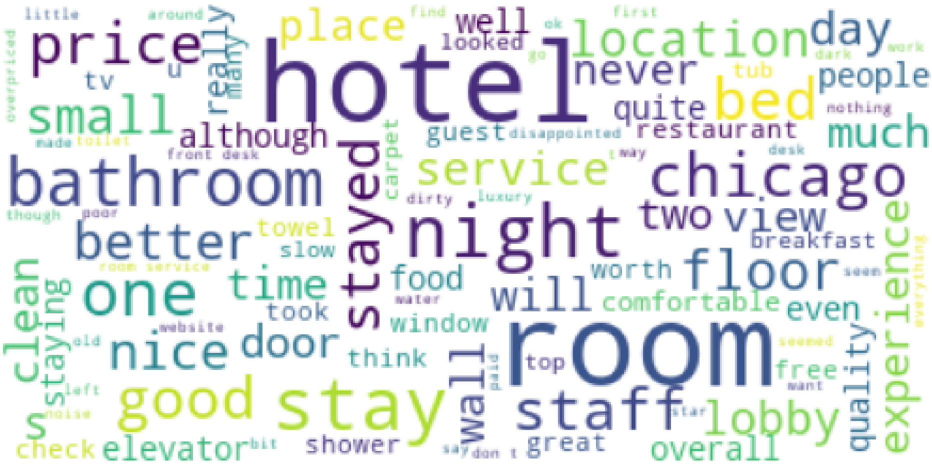
1.2.3 - Cluster 0



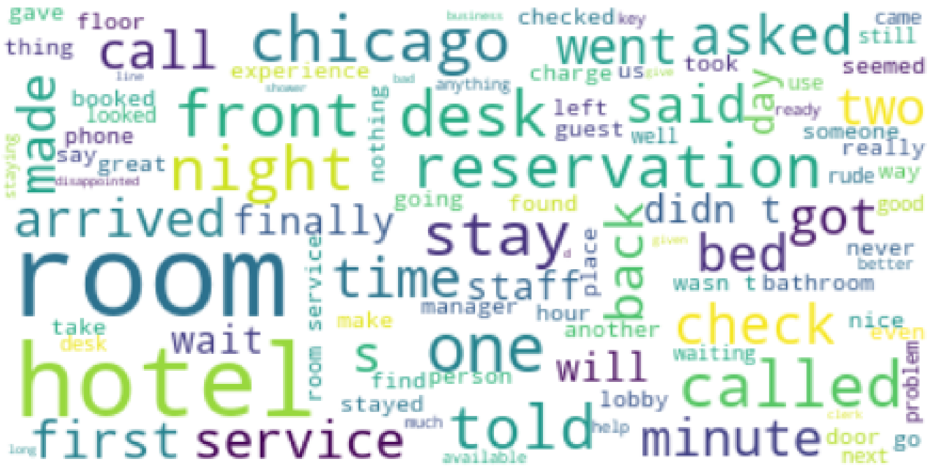
1.2.4 - Cluster 1



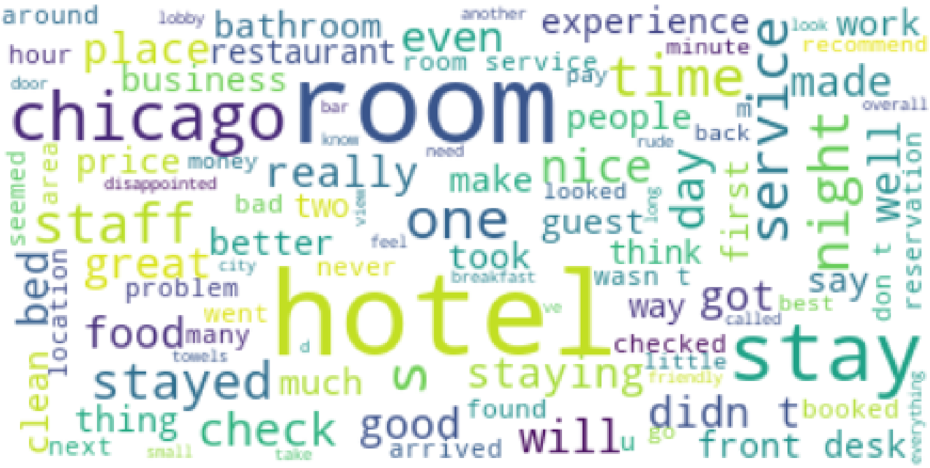
1.2.5 - Cluster 2



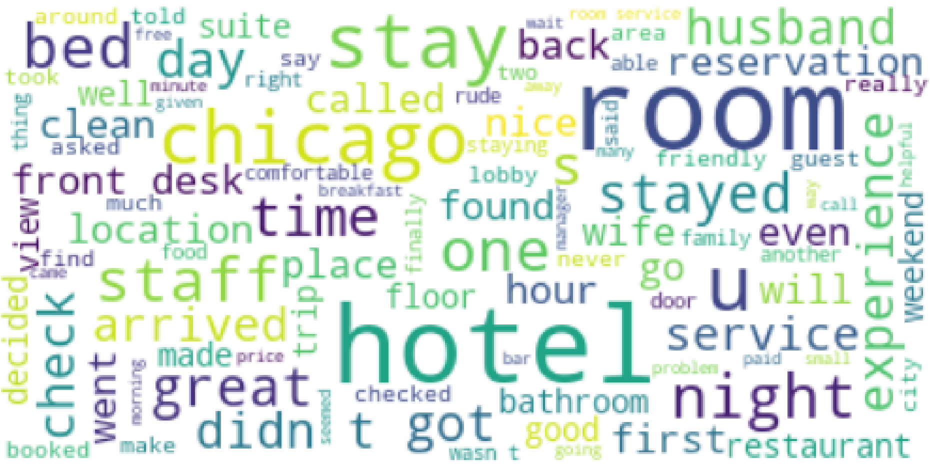
1.2.6 - Cluster 3



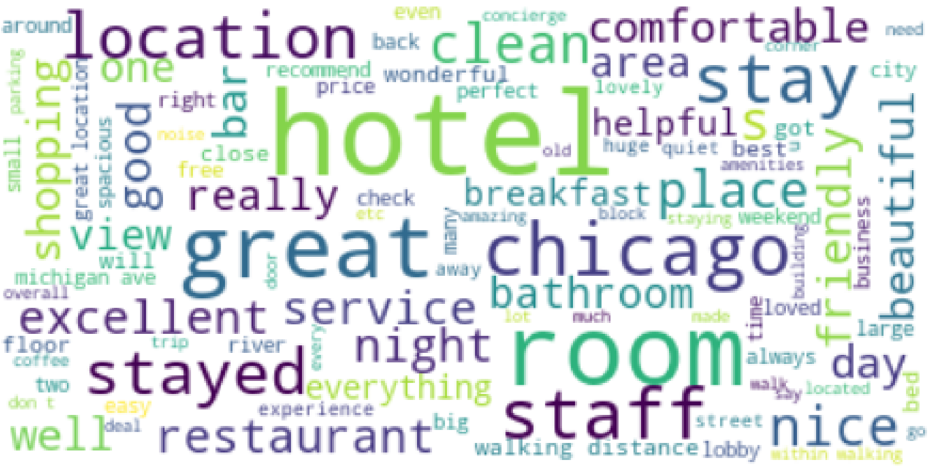
1.2.7 - Cluster 4



1.2.8 - Cluster 5



1.2.9 - Cluster 6



2 - Description of results

As mentioned before our datasets mostly focus on one topic. Because of this each cluster has some same words. For each cluster most used words start with the same 2 words. After that each cluster focusses on another topic. Clustering method is not really efficient for our project and datasets.