Machine Learning Assignment 3

1. Option d
2. Option d
3. Option c
4. Option b
5. Option d
6. Option c
7. Option d
8. Option a
9. Option a
10. Option a
11. Option a
12. Option b
13. Clustering helps in determining the internal structure of the data. It is used in outliers detection. Clustering analysis has been used for model analysis, vector region of attraction. It plays a wide role in applications like image processing, spatial research. Clustering helps in understanding the natural grouping in a dataset. Their purpose is to make sense to partition the data into some group of logical groupings. Clustering quality depends on the methods and the identification of hidden patterns.

14. The basic idea is that you set the maximum variance you allow in each cluster. You start with as many clusters as data points and then you "evolve" clusters by

- merging neighboring clusters if the resulting cluster's variance is below the threshold
- isolating elements that are "far" if a cluster's variance is above the threshold
- or moving some elements between neighboring clusters if it decreases the sum of squared errors