MACHINE LEARNING

Q.1. **a**

Q.2. **b**

Q.3. **a**

Q.4. **a**

Q.5. **b**

Q.6. **b**

Q.6. **a**

Q.7. **a**

Q.8. **d**

Q.9. **a**

Q.10. **d**

Q.11. **d**

Q.12. **Is K-Means sensitive to outliers?**

Ans:- The K-means clustering is an unsupervised learning algorithm which is about to do partition of n observations into k clusters in which each observation belongs to the cluster with the nearest centroid. An outlier is the point which is different from all other data observations. While processing for K-mean clustering with outliers, the outliers increases the mean of the data by some units which is a significant increase. Since K-Mean algorithm is about finding mean of clusters it is influenced by the Outliers.

Q.13. **Why is K-means better?**

Ans:- The best situation to choose K-Means is when we have no idea on what basis we are classifying the data. Since K-means is an unsupervised learning algorithm it doesn't have any attribute based on which it will learn to classify.

Also there are some advantages which are as follows:

1. Relatively simple to implement
2. Scales to large datasets
3. Guarantees convergence
4. Can warm-start the positions of centroids
5. Easily adapts new examples
6. Generalizes to clusters of different shapes and sizes such as elliptical clusters

Q.14. **Is K means a deterministic algorithm ?**

Ans:- No. It is not a deterministic algorithm. The basic K means clustering is a non-deterministic algorithm which means that running the algorithm several times on the same data could give different results.