

Machine Learning – Assignment 2

1. A) 2 only
2. D) 1, 2 and 4
3. A) True
4. A) 1 only
5. B) 1
6. B) No
7. A) Yes
8. D) All of the above
9. A) K-means clustering
10. D) All of the above
11. D) All of the above

12. **The K-means clustering algorithm is sensitive to outliers**, because a mean is easily influenced by extreme values. K-medoids clustering is a variant of K-means that is more robust to noises and outliers.

13. K-means is relatively simple to implement and guarantees convergence. It can easily adapt to new examples and generalizes to clusters of different shapes and sizes such as elliptical clusters.

14. K-means is not a deterministic algorithm. K-Means starts with a random set of data points as initial centroids. This random selection influences the quality of the resulting clusters. Besides, each run of the algorithm for the same dataset may yield a different output.