Assignment – 2

Machine learning

Q1. B

Q2. D

Q3. A

Q4. A

Q5. B

Q6. B

Q7. A

Q8. D

Q9. A

Q10. D

Q11. D

Q12. Is K sensitive to outliers?

Ans. The K – means clustering alogorithm is sensitive to outliers, because a mean is easily influenced by extreme values. K – means clustering is a variant of K – means that is more robust to noises and outliers.

An outlier is an observation that lies an abnormal distance from other values in a random sample from a population.

Q13. Why is K means better?

Ans. K- means groups similar data points together into clusters by minimising the mean distance between geometric points.

K – means clustering is an unsupervised learning alogorithm that is used to solve the clustering problems in machine learning or data science.

K – means guarantee convergence can warm – start the positions of centroids . Generalizes to clusters of different shapes and sizes,such as elliptical clusters.

Q14. Is K means a deterministic alogorithm ?

Ans. No, K means not a deterministic alogorithm. The non – deterministic nature of K – means is due to its random selection of data points as initial centroids. K – means start with a random set of data points as initial centroids. This random selection influences the quality of the resulting clusters.

The basic K – means clustering is based on a non – deterministic alogorithm.