

## Machine learning

1.a

2.d

3.a

4.a

5.b

6.b

7.a

8.d

9.a

10.d

11.d

12. Is K sensitive to outliers?

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. Why is K means better?

Relatively simple to implement.

Scales to large data sets.

Guarantees convergence.

Can warm-start the positions of centroids.

Easily adapts to new examples.

Generalizes to clusters of different shapes and sizes, such as elliptical clusters

14. Is K means a deterministic algorithm?

No K means is not a deterministic algorithm. The basic k-means clustering is based on a non-deterministic algorithm.

This means that running the algorithm several times on the same data, could give different results