Programming Assignment 8

Click this link to download the Animals Clustering notebook and then complete problems 1-4.

Problem 1

1/1 point (graded)

What initialization method was used for k-means in the notebook?

- The k-means++ algorithm was called
- k centers were chosen at random from the data points
- The first k data points were chosen as centers

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Problem 2

1/1 point (graded)

Based on your experiences with k-means, which of the following statements seems the most accurate?

- In general, the k-means cost function has multiple local optima
- Lloyd's algorithm does not necessarily find a local optimum of the k-means cost function

- Lloyd's algorithm finds the global optimum of the k-means cost function

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Problem 3

1/1 point (graded)

Does it make sense to run Ward's hierarchical clustering algorithm several times on the same data set?

- (●) No, because it returns the same result every time
- ( ) Yes, because it may return different results every time and we can choose the best of them
- ( ) Yes, because it always returns different results, and we can combine them into a single good hierarchy

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Problem 4

1/1 point (graded)

What was your experience with the running times of the two clustering methods in the notebook?

- ( ) Both took a long time
- ( ) k-means was fast, but hierarchical clustering took a long time
- ( ) Hierarchical clustering was fast, but k-means took a long time

They were both fast, because the data set was small

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