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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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