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1. Which of the following statements are true?
Select all that apply.



Clustering analysis has a wide range of applications in tasks such as data summarization, dynamic trend detection, multimedia analysis, and biological network analysis.



It is impossible to cluster objects in a data stream. We must have all the data objects that we need to cluster ready before clustering can be performed.



When clustering, we want to put two data objects that are similar into the same cluster.



Cluster analysis is considered supervised learning.

1
point

2. What are some common considerations and requirements for cluster analysis? Select all that apply.



In order to perform cluster analysis, we need to have a similarity measure between data objects.



We need to consider how to incorporate user preference for cluster size and shape into the clustering algorithm.

Lesson 1 Quiz

Quiz, 4 questions



We must know the number of output clusters *a priori* for all clustering algorithms.



We need to be able to handle a mixture of different types of attributes (e.g., numerical and categorical).

1
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3. Which of the following statements are true?
Select all that apply.



Since cluster analysis is unsupervised learning, there's no way to incorporate user preference or guidance into the clustering process.



K-means is an example of a distance-based clustering method.



There are no clustering algorithms that can handle time-series data since we always assume that the data points are temporally independent from each other.



Dimensionality reduction helps make high-dimensional clustering more feasible and scalable.

1
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4. If you need to choose between clustering and supervised learning for the following applications, for which ones would you choose clustering over supervised learning? Select all that apply.



Find user communities in online social networks such as Facebook and Twitter.



A real estate company wants to sell a new house; they need to determine the price for selling the house based on its condition (e.g., size, location), as well as the sales data of their previously sold houses.



Given a large number of web pages, discover the latent topics discussed by those web pages.



Given the historical prices of a group of stocks, predict whether the price of a specific stock will rise or fall in the following week.

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