



Knowledge Check

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1

What is the goal of hierarchical clustering?

- A. To classify data into distinct groups
- B. To identify anomalies in data sets
- C. To reduce the dimensionality of input data
- D. To create a tree-shaped structure known as a dendrogram



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The correct answer is **D**

The goal of hierarchical clustering is to create a tree-shaped structure known as a dendrogram that shows the hierarchical connection of items and finds the best approach to assigning items to a cluster based on similarities and dissimilarities.

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2

What is the first step in choosing the optimal number of clusters in hierarchical clustering?

- A. Choosing a random number
- B. Identifying the longest line that traverses the maximum vertical distance without intercepting any of the merging points in the dendrogram
- C. Counting the number of horizontal lines in the dendrogram
- D. Looking at the colors in the dendrogram



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2

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The correct answer is **B**

The first step to choosing the optimal number of clusters in hierarchical clustering is to identify the longest line that traverses the maximum vertical distance without intercepting any of the merging points in the dendrogram.

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3

How does ICA differ from PCA?

- A. ICA and PCA are the same techniques with different names.
- B. ICA is used for supervised learning, while PCA is used for unsupervised learning.
- C. ICA focuses on maximizing the independence of components, while PCA focuses on maximizing the variance of data points.
- D. ICA and PCA are both used for data reduction in machine learning.



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The correct answer is **C**

ICA focuses on maximizing the independence of components, while PCA focuses on maximizing the variance of data points.





Thank You!