
# Knowledge Check

**Knowledge Check**

**1**

**Which of the following is an advantage of feature selection?**

A. It reduces the calculation time required to obtain the model's predictions.

B. It prevents overfitting by removing unimportant variables and focusing on the key ones.

C. It eliminates irrelevant information, which helps to enhance the model's forecast accuracy.

D. All of the above

**Knowledge Check**

**1**

**Which of the following is an advantage of feature selection?**

A. It reduces the calculation time required to obtain the model's predictions.

B. It prevents overfitting by removing unimportant variables and focusing on the key ones.

C. It eliminates irrelevant information, which helps to enhance the model's forecast accuracy.

D. All of the above

The correct answer is **D**

**Feature selection reduces the calculation time required to obtain the model's predictions. It prevents overfitting by removing unimportant variables. It eliminates irrelevant information, which helps to enhance the model's forecast accuracy.**

**Knowledge Check**

**2**

**What is the significance of utilizing PCA prior to clustering**

A. Identify the data dimension which maximizes feature variance

B. Determine the explained variance

C. Avoid negative characteristics

D. Find useful characteristics to boost the clustering score

**Knowledge Check**

**2**

**What is the significance of utilizing PCA prior to clustering ?**

A. Identify the data dimension which maximizes feature variance

B. Determine the explained variance

C. Avoid negative characteristics

D. Find useful characteristics to boost the clustering score

The correct answer is **A**

**Users must determine which dimension of data maximizes the variance of the features and the explained variance for each dimension to increase clustering efficiency. Users may lose less data with more variety.**

**Knowledge Check**

**3**

**Which of the following algorithms can NOT be used to reduce data dimensionality?**

A. t-SNE

B. PCA

C. LDA false

D. None of the above

**Knowledge Check**

**3**

**Which of the following algorithms can NOT be used to reduce data dimensionality?**

A. t-SNE

B. PCA

C. LDA false

D. None of the above

The correct answer is **D**

**T-SNE, PCA, and LDA false are examples of dimensionality reduction algorithms.**