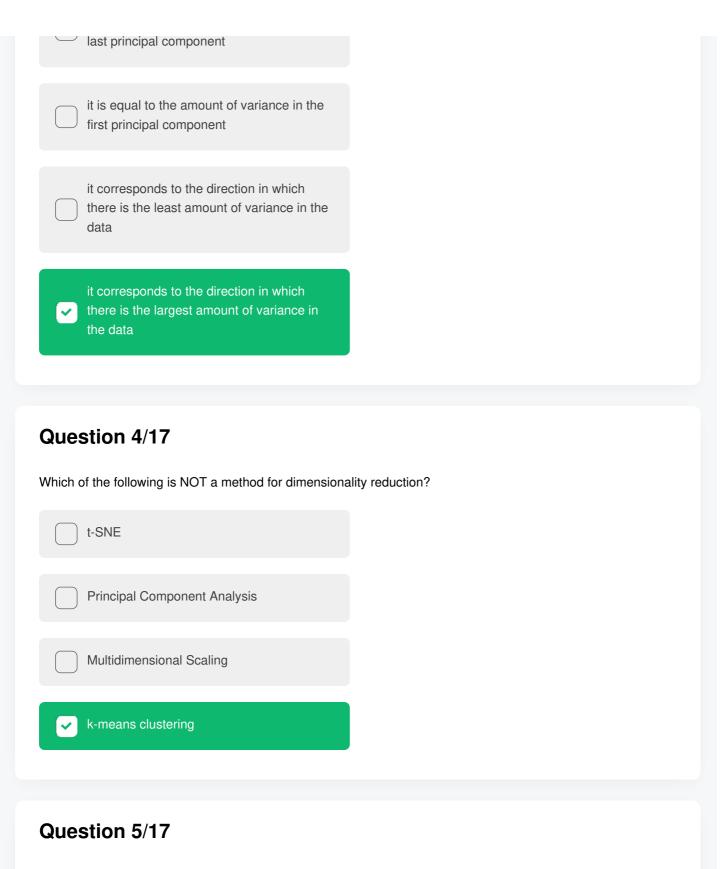
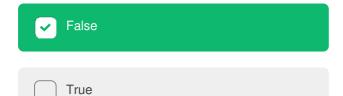
# **Dimensionality Reduction MCQ (Version: 1) TEST** Correct Answer (L) Answered in 238.2333333333 Minutes Question 1/17 Principal Component Analysis is a linear dimensionality reduction technique. False Question 2/17 Before performing PCA, what should ideally be done to the data set? standardize variables categorise variables encode variables normalise variables Question 3/17 What can be said of the largest eigenvalue, in terms of its relation to the principal components of a dataset?

it is equal to the amount of variance in the



t-SNE is a linear dimensionality reduction technique.



Question 6/17
Which of the following is not true regarding dimensionality reduction:
it decreases the interpretability of models
it can be used to aid data visualization
it always improves performance of clustering algorithms
it decreases the computational time for training models
Question 7/17
t-SNE has one tunable hyperparameter, namely:
perplexity
duplicity
irregularity
complexity
Question 8/17
Which of the following dimensionality reduction techniques preserves distances between points?
Multidimensional scaling
t-SNE

## Question 9/17 It is not necessary to have a target variable for applying dimensionality reduction algorithms. True False Question 10/17 The most popularly used dimensionality reduction algorithm is Principal Component Analysis (PCA). Which of the following is/are true about PCA? 1. PCA is an unsupervised method 2. It searches for the directions that data have the largest variance 3. Maximum number of principal components <= number of features 4. All principal components are orthogonal to each other 1, 2, 3 and 4 1, 2, and 4 1, 2 and 3 1, 3 and 4 Question 11/17 In which of the following scenarios is t-SNE better to use than PCA for dimensionality reduction while working on a local machine with minimal computational power? Data set with 10,000 entries and 200 features Data set with 1 Million entries and 300 features

Data set with 10,000 entries and 8 features
Data set with 100000 entries and 310 features
Question 12/17

## In t-SNE algorithm, which of the following hyper parameters can be tuned?

Number of dimensions

Smooth measure of effective number of neighbours

Number of dimensions, smooth measure and max iterations

Maximum number of iterations

#### Question 13/17

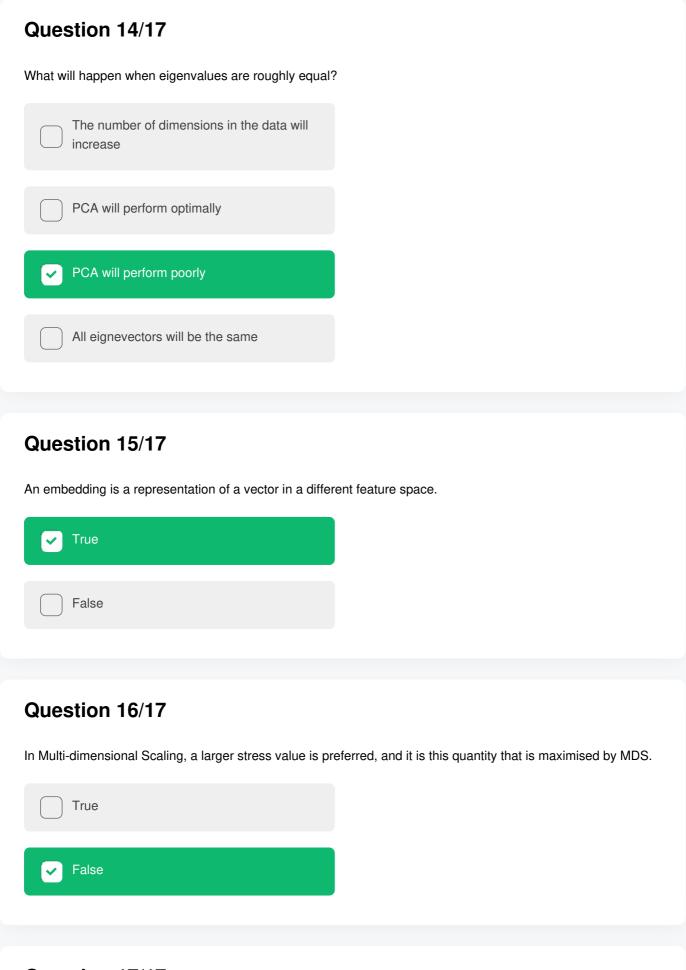
Which of the following statement is correct for t-SNE and PCA?

t-SNE is linear whereas PCA is non-linear

t-SNE and PCA both are linear

t-SNE and PCA both are nonlinear

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### Question 17/17

Regarding an MDS scatter plot, which of the following is false: