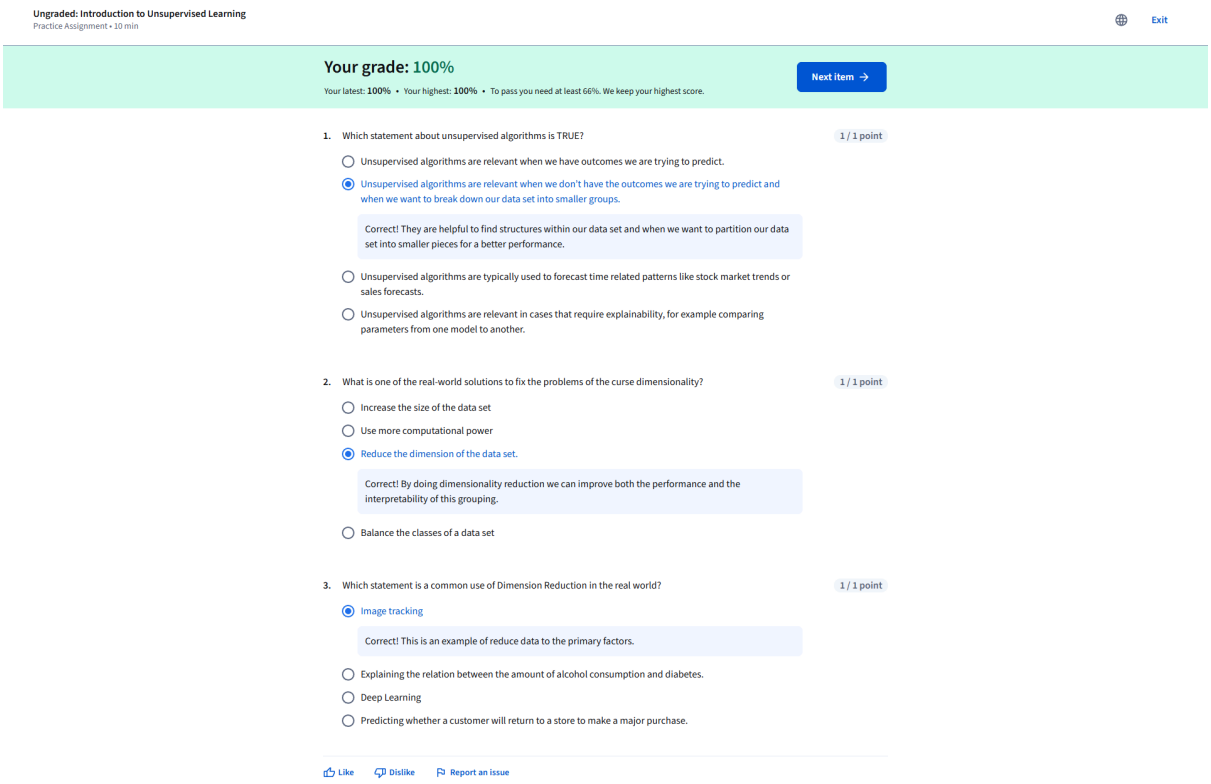
Ungraded: Introduction to Unsupervised Learning



Ungraded: Introduction to Unsupervised Learning
Practice Assignment • 10 min

Exit

Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 66%. We keep your highest score.

Next item →

1. Which statement about unsupervised algorithms is TRUE? 1 / 1 point

- ○ Unsupervised algorithms are relevant when we have outcomes we are trying to predict.
- ◉ Unsupervised algorithms are relevant when we don't have the outcomes we are trying to predict and when we want to break down our data set into smaller groups.

  Correct! They are helpful to find structures within our data set and when we want to partition our data set into smaller pieces for a better performance.

- ○ Unsupervised algorithms are typically used to forecast time related patterns like stock market trends or sales forecasts.
- ○ Unsupervised algorithms are relevant in cases that require explainability, for example comparing parameters from one model to another.

2. What is one of the real-world solutions to fix the problems of the curse dimensionality? 1 / 1 point

- ○ Increase the size of the data set
- ○ Use more computational power
- ◉ Reduce the dimension of the data set.

  Correct! By doing dimensionality reduction we can improve both the performance and the interpretability of this grouping.

- ○ Balance the classes of a data set

3. Which statement is a common use of Dimension Reduction in the real world? 1 / 1 point

- ◉ Image tracking

  Correct! This is an example of reduce data to the primary factors.

- ○ Explaining the relation between the amount of alcohol consumption and diabetes.
- ○ Deep Learning
- ○ Predicting whether a customer will return to a store to make a major purchase.

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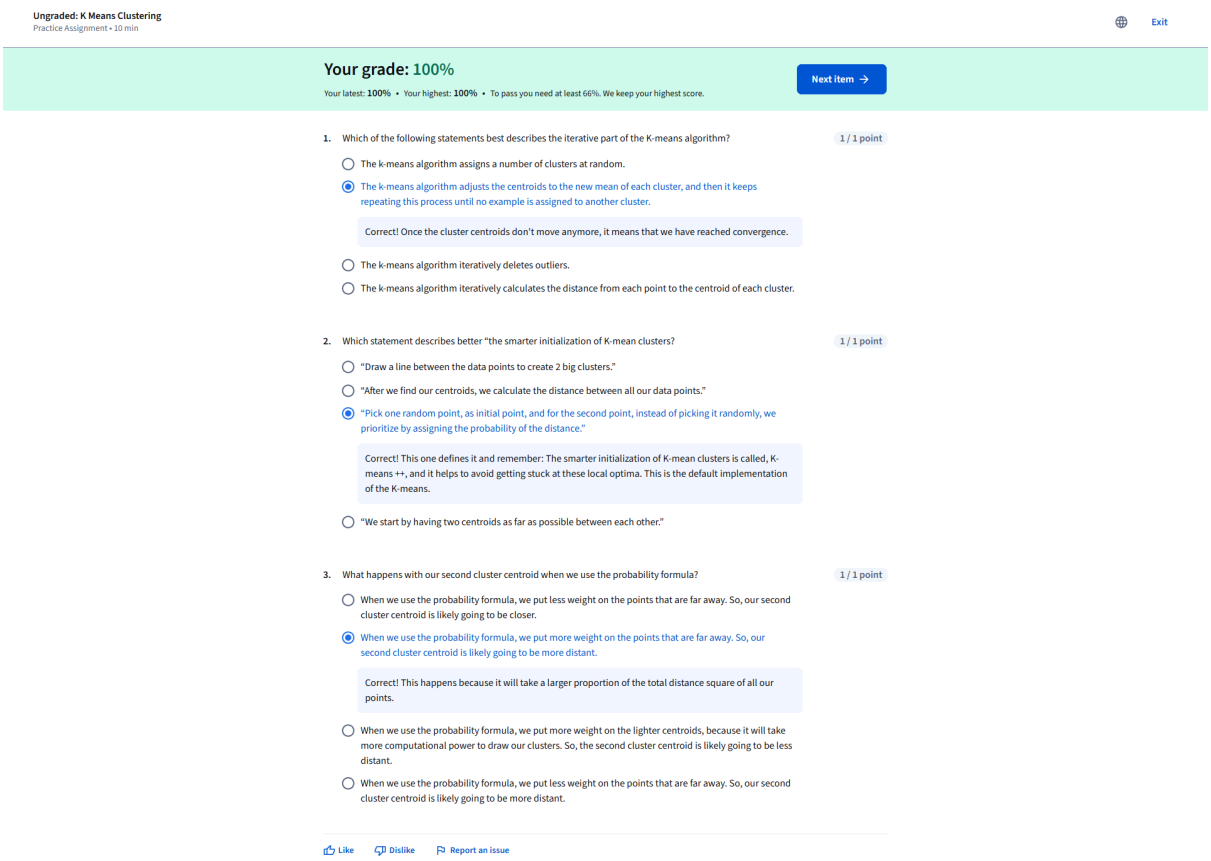
Ungraded: K Means Clustering



Graded: Module 1 Quiz

Your grade: 80%

Your latest: **80%** • Your highest: **80%** • To pass you need at least 60%. We keep your highest score.

Next item →

1. What is the implication of a small standard deviation of the clusters? 1 point

- (●) A small standard deviation of the clusters defines the size of the clusters.
- ( ) The standard deviation of the cluster defines how tightly around each one of the centroids are. With a small standard deviation, the points will be closer to the centroids.
- ( ) The standard deviation of the cluster defines how tightly around each one of the centroids are. With a small standard deviation, we can't find any centroids.
- ( ) A small standard deviation of the clusters means that the centroids are not close enough to each other.

Incorrect
Incorrect. Please review the lesson *K-means Initialization lesson.*

2. After we plot our elbow and we find the inflection point, what does that point indicate to us? 1 / 1 point

- (●) The ideal number of clusters.
- ( ) The data points we need to form a cluster
- ( ) How we can reduce our number of clusters.
- ( ) Whether we need to remove outliers.

Correct
Correct! You can find more information in the *K-means Initialization lesson.*

3. What is one of the most suitable ways to choose K when the number of clusters is unclear? 1 / 1 point

- ( ) You can start by choosing a random number of clusters.
- (●) By evaluating Clustering performance such as Inertia and Distortion.
- ( ) By increasing the number of clusters calculating the square root.
- ( ) You can start by using a k nearest neighbor method.

Correct
Correct! Both are measures of entropy part cluster. You can find more information in the Selecting the Right Number of Clusters in K-Means lesson.

4. Which statement describes correctly the use of distortion and inertia? 1 / 1 point

- ( ) When the sum of the points equals a prime number, use inertia, and when the sum of the points equals a pair number, use distortion.
- ( ) When we can calculate a number of clusters higher than 10, we use distortion, when we calculate a number of clusters smaller than 10, we use inertia.
- ( ) When outliers are a concern use inertia, otherwise use distortion.
- (●) When the similarity of the points in the cluster are more important, you should use distortion, and if you are more concerned that clusters have similar numbers of points, then you should use inertia.

Correct
Correct! This statement describes best how we can choose between distortion and inertia.

5. Which method is commonly used to select the right number of clusters? 1 / 1 point

- (●) The elbow method.
- ( ) The ROC curve.
- ( ) The perfect Square Method
- ( ) The Sum of Square Method

Correct
Correct! The method consists of plotting the interpreted variation as a function of the number of clusters, and selecting the elbow of the curve as the number of clusters to use.