

1. Which of the following is not true about Machine Learning?

1 / 1 ponto

- ☐ Machine Learning models help us in tasks such as object recognition, summarization, and recommendation.
- ☐ Machine Learning models iteratively learn from data and allow computers to find hidden insights.
- ☐ Machine Learning was inspired by the learning process of human beings.
- ☒ Machine learning gives computers the ability to make decision by writing down rules and methods and being explicitly programmed.
- ☒ **Correto**
Correct! Machine learning can learn without explicitly being programmed to do so.

2. Which of the following is not a Machine Learning technique?

1 / 1 ponto

- ☐ Clustering
- ☐ Regression/Estimation
- ☒ Heuristics
- ☐ Associations
- ☒ **Correto**
Correct! The common machine learning techniques are regression/estimation, classification, clustering, association, anomaly detection, sequence mining, and recommendation systems.

3. When would you use Multiple Linear Regression?**0 / 1 ponto**

- ☐ When we would like to predict the impacts that weather and temperature have on crop yield.
- ☒ Predict whether or not a customer switches to another brand based on income, education, etc.
- ☐ Group genetic markers to identify family ties.
- ☐ None of the above.
- ☒ **Incorreto**
Incorrect. Please review video Multiple Linear Regression.

4. Which one is not an example of a classification problem?**0 / 1 ponto**

- ☐ To predict the category to which a customer belongs to.
- ☐ To predict whether a customer responds to a particular advertising campaign or not.
- ☐ To predict the amount of money a customer will spend in one year.
- ☒ To predict whether a customer switches to another provider/brand.
- ☒ **Incorreto**
Incorrect. Please review video Introduction to Classification.

**5. Which of the following statements are TRUE about Logistic Regression?
(select two)****0 / 1 ponto**

- ☒ Logistic regression finds a regression line through the data to predict the probability of a point belonging to a class.

⊗ **Não deve ser selecionado**

Incorrect. Logistic regression applies the sigmoid function that always returns a value between 0 and 1.

☐ Logistic regression can be used both for binary classification and multi-class classification.

☐ In logistic regression, the dependent variable is always binary.

☒ Logistic regression is analogous to linear regression but takes a categorical/discrete target field instead of a numeric one.

✓ **Correto**

Almost correct! There are other true statements about Logistic Regression.

6. What type of clustering divides the data into non-overlapping subsets without any cluster-internal structure?

1 / 1 ponto

☒ k-mean clustering

☐ Hierarchical clustering

☐ DBSCAN

☐ None of the above

✓ **Correto**

Correct! Other algorithms divide data into clusters of varying shapes.

7. Which one best describes the clustering process for k-means clustering?

1 / 1 ponto

- ☐ k-means creates clusters by grouping data points with similar labels.
 - ☐ k-means clustering creates a tree of clusters.
 - ☐ k-means divides the data into clusters with minimal overlap such that there are low chances of dissimilar samples in the same cluster.
 - ☒ The objective of k-means is to form clusters in such a way that similar samples go into a cluster, and dissimilar samples fall into different clusters.
- ☒ **Correto**
Correct! K-Means seeks to create non-overlapping clusters.

8. What is a hyperplane in SVM?

0 / 1 ponto

- ☐ Features
- ☐ Decision boundaries
- ☐ Data points
- ☒ Classes

☒ **Incorreto**
Incorrect. Please review video Support Vector Machine.

9. Precision and recall are suitable for measuring the performance of which tasks?

0 / 1 ponto

- ☐ Classification

- ☐ Clustering
- ☐ Regression
- ☒ All of the above

⊗ **Incorreto**

Incorrect. Please review video Evaluation Metrics in Classification.

10. When are decision trees more suitable than regression trees?

1 / 1 ponto

- ☐ Some of the independent variables are categorical.
- ☐ There are no continuous independent variables.
- ☐ The dependent variable is continuous instead of categorical
- ☒ The dependent variable is categorical instead of continuous

✓ **Correto**

Correct! Regression trees are best used when the task is predicting a continuous response.