

✔ Congratulations! You passed!

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

1 / 1 point

- ☐ Machine Learning was inspired by the learning process of human beings.
- ☐ Machine Learning models help us in tasks such as object recognition, summarization, and recommendation.
- ☒ Machine learning gives computers the ability to make decision by writing down rules and methods and being explicitly programmed.
- ☐ Machine Learning models iteratively learn from data and allow computers to find hidden insights.

✔ Correct

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 point

- ☐ Regression/Estimation
- ☐ Clustering
- ☐ Associations
- ☒ Heuristics

✔ Correct

Correct! The common machine learning techniques are regression/estimation, classification, clustering, association, anomaly detection, sequence mining, and recommendation systems.

3. In which of the following would you use **Multiple Linear Regression**?

1 / 1 point

- ☐ Predict CO2 emission of a car based on engine size.
- ☐ Predict whether a customer is likely to repay a loan based on age and income.
- ☐ Recommend products to customers based on their demographic characteristics.
- ☒ Predicting the production of apples in an orchard based on temperature and rainfall.

✔ Correct

Correct! We use multiple linear regression when there is more than one independent variable for predicting a continuous variable.

4. Which of the below is an example of a classification problem?

1 / 1 point

- ☐ To predict the category to which a customer belongs to.
- ☐ To predict whether a customer switches to another provider/brand.
- ☐ To predict whether a customer responds to a particular advertising campaign or not.
- ☒ All of the above.

✔ Correct

Correct! All of the above can be phrased as a classification problem.

5. Which of the following is an example of Logistic Regression?

1 / 1 point

- ☐ The odds of a particular individual having a heart attack based on how much they exercise and how much they weigh.
- ☐ The probability of a borrower defaulting on their mortgage based upon their credit score and age.
- ☐ The probability of a person purchasing life insurance based on age and income.
- ☒ All of the above.

✔ Correct

Correct! All of these are examples of logistic regression as they try to predict the probability of a binary response.

6. Which of the following statements is true for k-means clustering?

1 / 1 point

- ☐ Is one of the simplest unsupervised learning algorithms that solve well known clustering problems.
- ☐ k-means divides the data into non-overlapping clusters without any cluster-interval structure.
- ☐ The object 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.
- ☒ All of the above.

✔ Correct


Correct! All statements are true about k-Means clustering.

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

1 / 1 point

- ☐ k-means clustering creates a tree of clusters.
- ☐ k-means creates clusters by grouping data points with similar labels.


- ☒ 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.
- ☐ k-means divides the data into clusters with minimal overlap such that there are low chances of dissimilar samples in the same cluster.

 **Correct**
Correct! K-Means seeks to create non-overlapping clusters.

8. What are some advantages of logistic regression over SVM?

1 / 1 point


- ☒ It focuses on attaining the right probability for each output class.
- ☐ It focuses on finding the best margin to separate classes in one iteration.
- ☐ It works well with high-dimensional data, such as text or image.
- ☐ It can be used for linearly separable data.

 **Correct**
Correct! SVM is unable to provide probability estimates of each class.

9. In comparison to mean absolute error, mean squared error:

1 / 1 point


- ☐ Weighs small and large errors equally.
- ☐ Is more interpretable by taking the same unit as the response.
- ☒ Focuses more on large errors.
- ☐ Avoids cancellation of errors.

 **Correct**
Correct! The squared term exponentially increases larger errors as compared to smaller ones.

10. When do we use regression trees instead of decision trees?

1 / 1 point

- ☒ When the response is continuous instead of categorical
- ☐ When all of the independent variables are continuous
- ☐ When the response is categorical instead of continuous
- ☐ When some of the independent variables are continuous

 **Correct**
Correct! Regression trees split the data based on features like in decision trees, but the prediction is an average across the data points in that node.