Congratulations! You passed!

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1. Which of the following is an example of Machine Learning? 1 / 1 point

- ○ Streaming service viewing suggestions.
- ○ Websites recommending items to purchase.
- ○ Telecommunication companies predicting subscriber retention.
- ◉ All of the above.

Correct
Correct! All of these are valid examples of tasks that can be accomplished with machine learning.

2. Which of the following is a Machine Learning technique? 1 / 1 point

- ○ Clustering
- ○ Classification
- ○ Regression/Estimation
- ◉ All of the above

Correct
Correct! All of the above are considered machine learning techniques along with association, anomaly detection, sequence mining, and recommendation systems.

3. In which of the following would you use **Multiple Linear Regression**? 0 / 1 point

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

Incorrect
Incorrect. Please review video Multiple Linear Regression.

4. Which of the below is an example of classification problem? 1 / 1 point

- ○ Predicting whether an email is spam or not.
- ○ Predicting whether a customer will purchase a particular item based on an advertising campaign.
- ○ Predicting whether a customer would purchase an associated product based on previous purchases.
- ◉ All of the above.

Correct
Correct! All of these can be phrased as a classification task.

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

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

This should not be selected
Incorrect. Logistic regression applies the sigmoid function that always returns a value between 0 and 1.

- ☑ In logistic regression, the dependent variable is always binary.

This should not be selected
Incorrect. The dependent variable can have multiple classes.

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

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

6. What type of clustering divides the data into non-overlapping subsets without any cluster-internal structure? **0 / 1 point**

- ( ) k-mean clustering
- ( ) Hierarchical clustering
- ( ) DBSCAN
- (•) None of the above

Incorrect
Incorrect. Please review video Intro to Clustering.

7. k-means can be used for: **0 / 1 point**

- ( ) Classifying a song as a top hit or not based on genre, length, and the artist's number of fans.
- (•) Predicting restaurant ratings based on location, services, and open hours.
- ( ) Detecting credit card fraud by identifying transaction outliers.
- ( ) Estimating house price by taking the average of the most similar points

Incorrect
Incorrect. Please review video Intro to Clustering.

8. What are some advantages of logistic regression over SVM? **0 / 1 point**

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

Incorrect
Incorrect. Please review video Support Vector Machine.

9. Precision and recall are suitable for measuring the performance of which tasks? **0 / 1 point**

- ( ) Classification
- ( ) Clustering
- ( ) Regression
- (•) All of the above

Incorrect
Incorrect. Please review video Evaluation Metrics in Classification.

10. Which of the following is more suitable to solve with a decision tree? **1 / 1 point**

- ( ) To predict the probability of raining based on current temperature and humidity.
- (•) To predict if the person will like a certain movie based on age, favorite actors and genre.
- ( ) To predict the salary of a baseball player based on the number of home runs and years in the league.
- ( ) To segment customers into groups with similar characteristics.

Correct
Correct! Decision trees can split the data based on age, favorite actors, and genre to output a discrete prediction for whether the person likes/dislikes a movie.