

## Module 2

Which statement describes machine learning?

- The scientific study of algorithms and statistical models to perform tasks by using inference instead of instructions.
- The creation of a system that can learn from experience and make decisions without being explicitly programmed.
- The combination of data and computation to produce insights.
- A set of rules or procedures for solving a problem.

Correct

Machine learning is the scientific study of algorithms and statistical models to perform tasks by using inference instead of instructions.

Continue



Number correct: 1 out of 1

QUIZ

Which type of training describes a machine learning application that interacts with its environment and learns to take actions that maximize rewards?

- Supervised learning
- Unsupervised learning
- Reinforcement learning
- Deep learning

Correct

In a reinforcement learning system, the model interacts with its environment and learns to take actions that maximize rewards.

Continue



Number correct: 2 out of 2

You are creating a machine learning solution for a call center. The objective of the system is to route customers to the appropriate department, and there are eight possible departments. Which type of machine learning problem does this scenario describe?

- Regression
- Multiclass classification
- Binary classification
- Clustering

**Correct**

This scenario describes a multiclass classification problem because the machine learning system must correctly route the caller to one of multiple possible departments.

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Number correct: 3 out of 3

You are working on a machine learning problem that requires the system to respond to changes in the environment to improve performance. Which type of machine learning problem does this scenario describe?

- Regression
- Supervised learning
- Reinforcement learning
- Unsupervised learning

**Correct**

Machine learning systems that respond to changes in the environment are reinforcement learning systems.

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Number correct: 4 out of 4

Which stage of the machine learning (ML) pipeline involves verifying that your data is all of a uniform type?

- Problem
- Model
- Data preparation
- Feature selection

Correct

During the data preparation stage, you make sure all your data is of a similar type so that you have a single cohesive view of your data.

Continue



Number correct: 5 out of 5

You are working on a machine model that uses data from multiple countries. The countries are listed by using alphabetical abbreviations. Which stages involve converting these abbreviations to numerical values?

- Data preparation
- Model
- Model
- Model

Correct

You would convert the data in the data preparation stage.

Continue



Number correct: 6 out of 6

True or False: Your model is overfitting if it performs well on the training data, but not on the evaluation data.

True

False

Correct

Overfitting is when your model performs well with the training data, but not the evaluation data. The model is memorizing the training data and not generalizing to new data.

Continue



Number correct: 7 out of 7

Which resources are Python libraries for working with machine learning problems? (Select TWO.)

pandas

math

scikit-learn

Jupyter

Bokeh

Correct

pandas and scikit-learn are Python libraries that you can use to work on machine learning problems.

Continue



Number correct: 8 out of 8

Which Amazon service can you use to deploy machine learning instances and run Jupyter Notebooks?

- Amazon CloudWatch Metrics
- Amazon SageMaker
- Amazon Lambda
- Amazon Simple Queue Service (SQS)

Correct

Amazon SageMaker is a service that you can use to deploy machine learning solutions, host Jupyter Notebooks, and also host JupyterLab.

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Number correct: 9 out of 9

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What are requirements for choosing machine learning as a development methodology?

- A pre-defined dataset
- Large dataset
- A complex algorithm
- A standard workflow

Correct

Before you decide to develop a machine learning solution, you should have a large dataset with a large number of variables.

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Number correct: 10 out of 10