Practice Quiz: Classification and Regression
Practice Assignment • 10 min

Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 60%. We keep your highest score.

Next item →

1. What type of machine learning method is classification? 1 / 1 point

- ○ Unsupervised
- ○ Semi-supervised
- ◉ Supervised
- ○ Reinforcement

Correct
Classification is a supervised machine learning method that uses labeled data to predict labels on new data.

2. What is the purpose of using a one-versus-all classification strategy? 1 / 1 point

- ○ To classify data into one or more classes
- ○ To handle binary classification
- ◉ To extend binary classifiers to handle multiple classes
- ○ To improve the performance of neural networks

Correct
The one-versus-all strategy is a method to adapt binary classifiers for multi-class classification by training each classifier to recognize a single class against all others.

3. In a decision tree, what does each leaf node represent? 1 / 1 point

- ○ A feature of the data
- ◉ A class label
- ○ The result of a test
- ○ The split criterion used at that level

Correct
Each leaf node assigns its data points to a specific class, such as Drug A or Drug B.

4. Why might you want to prune a decision tree? 1 / 1 point

- ◉ To avoid overfitting the training data
- ○ To increase the complexity of the model
- ○ To maximize the number of features used in the tree
- ○ To ensure the tree has no leaf nodes

Correct
Pruning can help simplify the tree, which reduces overfitting and improves generalization to new data.

5. What is the primary goal of a regression tree? 1 / 1 point

- ○ To split data based on information gain and entropy
- ◉ To predict continuous values based on features
- ○ To classify data into discrete categories
- ○ To minimize the number of leaf nodes

Correct
The primary purpose of a regression tree is to predict continuous values.