Quiz Answers

1. **False.** Deep Learning has applications beyond image recognition, including natural language processing, game playing, medical diagnosis, and more.
2. **c) Linear Regression.** Linear regression is not an activation function; it is a regression algorithm. Activation functions like Sigmoid, Tanh, and ReLU are used within neural networks to introduce non-linearity.
3. **False.** While adding more layers can enable a neural network to capture more complex patterns and relationships in the data, it can also lead to overfitting, where the model performs well on training data but poorly on unseen data. Balancing the complexity of the model with the amount of available data and regularization techniques is crucial.
4. What is the main difference between supervised and unsupervised learning?
5. Which of the following is a use case for reinforcement learning? a) Spam detection in emails b) Playing chess c) Clustering customers based on purchase history d) None of the above
6. What does the term 'overfitting' mean in the context of machine learning?
7. In a neural network, what does the term 'backpropagation' refer to?
8. What is the purpose of the activation function in a neural network?
9. True/False: Regularization techniques are used to prevent overfitting in a machine learning model.
10. Multiple Choice: Which of the following is an example of a 'loss function' in machine learning? a) Sigmoid function b) Hyperbolic tangent function c) Mean Squared Error d) ReLU function
11. What role does the learning rate play in the training of a machine learning model?
12. True/False: Deep learning models require a larger amount of data compared to traditional machine learning models for effective training.
13. Multiple Choice: In the context of deep learning, what does 'dropout' refer to? a) A method to speed up training by dropping out layers. b) A regularization technique where randomly selected neurons are ignored during training. c) The action of removing data points that are considered outliers. d) None of the above.