108-1 Introduction to AI, Midterm Exam

Name: _____
Student ID: _____

( ) 1. What is AI?
(a) Statistics (b) Machine Learning (c) Deep Learning (d) All of them

( ) 2. Which type of neural network is widely used to extract image features?
(a) CNN (b) RNN (c) VAE (d) GAN

( ) 3. Which type of neural network can be used to generate fake data?
(a) CNN (b) RNN (c) VAE (d) GAN

( ) 4. Which type of neural network has a feedback connection?
(a) CNN (b) RNN (c) VAE (d) GAN

( ) 5. Which type of machine learning requires numerous labeled data?
(a) Supervised learning (b) Unsupervised learning (c) Semi-supervised learning
(d) Reinforcement Learning

( ) 6. Given W = [1, 2] and X = [1, 1], what is the output of Y = numpy.dot(W, X)?
(a) 1 (b) 2 (c) 3 (d) 4

( ) 7. Which description about overfitting is TRUE?
(a) The model achieves 99% accuracy on training dataset and 50% accuracy on test dataset, while the optimal model accuracy is around 70%. This is overfitting.
(b) The model achieves 80% accuracy on training dataset and 65% accuracy on test dataset, while the optimal model accuracy is around 70%. This is overfitting.
(c) None
(d) Both

( ) 8. Which type of supervised learning can predict continuous data, e.g. stock price?
(a) Classification (b) Regression (c) Clustering (d) Dimensionality Reduction

( ) 9. Which type of supervised learning can classify hand-written digits?
(a) Classification (b) Regression (c) Clustering (d) Dimensionality Reduction

( ) 10. Which algorithm was proposed by DeepMind to learn playing Go and StarCraft?
(a) Convolutional Neural Networks (b) Generative Adversarial Networks
(c) Deep Reinforcement Learning (d) Recurrent Neural Network