Quiz 4 Submission

Total points 4/4

A score of 3/4 or 4/4 is required to be considered to have "passed" a quiz. Please do not resubmit a quiz if you obtain a score of 3/4. You don't receive a final grade at the end of the course, so it will have no bearing on your certificate!

Your quiz will be graded and returned to you within a few minutes in most cases. However, it may take up to three weeks for your work to appear in your Gradebook. Do be patient, please!

Quizzes (which are submitted via Google Forms and not submit50) may not show up as submitted in your Gradebook until the scores have been imported, and even then will only show up if you have received a passing score.

Remember, you are limited to a maximum of EIGHT attempts at a quiz in a single calendar year. If you submit this assignment more than eight times, **all** of your submissions will be deleted, and you **will not be eligible to earn a certificate in CS50AI during this calendar year**. Take this assignment seriously! (Submissions from 28 December 2022 count towards 2023 eligibility.)

Attempts to circumvent this policy, if detected, will be treated as violations of the course's academic honesty policy and will result in permanent expulsion from the course.

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✓ Categorize the following as supervised learning, reinforcement learning, unsupervised learning, or not machine learning: A social network's AI uses existing tagged photos of people to identify when those people appear in new photos. *1/1

- (●) Supervised learning ✓
- ( ) Unsupervised learning
- ( ) Not an example of machine learning
- ( ) Reinforcement learning

✓ Imagine a regression AI that makes the following predictions for the following 5 data points. What is the total L2 loss across all of these data points (i.e., the sum of all the individual L2 losses for each data point)? *1/1

For data point 1, the true output is 2 and the AI predicted 4. For data point 2, the true output is 4 and the AI predicted 5. For data point 3, the true output is 4 and the AI predicted 3. For data point 4, the true output is 5 and the AI predicted 2. For data point 5, the true output is 6 and the AI predicted 5.

- ○ 0
- ○ 4
- ○ 5
- ○ 8
- ◉ 16 ✓
- ○ 19
- ○ 21
- ○ 64

✓ If Hypothesis 1 has a lower L1 loss and a lower L2 loss than Hypothesis 2 on a set of training data, why might Hypothesis 2 still be a preferable hypothesis? *1/1

- ○ Hypothesis 1 might be the result of loss.
- ○ Hypothesis 1 might be the result of regression.
- ○ Hypothesis 1 might be the result of cross-validation.
- ○ Hypothesis 1 might be the result of regularization.
- ◉ Hypothesis 1 might be the result of overfitting. ✓

✓ In the ε-greedy approach to action selection in reinforcement learning, which of the following values of ε makes the approach identical to a purely greedy approach? *1/1

- (●) ε = 0 ✓
- ( ) ε = 0.25
- ( ) ε = 0.5
- ( ) ε = 0.75
- ( ) ε = 1

Comments, if any