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Unit 5 Reinforcement Learning (2

Course > weeks)

> <u>Project 5: Text-Based Game</u> > 8. Deep Q-network

## 8. Deep Q-network

Extension Note: Project 5 due date has been extended by 1 more day to September 6 23:59UTC.

As you have observed in the previous tab, a linear model is not able to correctly approximate the Q-function for our simple task.

In this section, you will approximate  $Q\left(s,c\right)$  with a neural network. You will be provided with a DQN that takes the state representation (bag-of-words) and outputs the predicted Q values for the different "actions" and "objects".

## Deep Q network

1/1 point (graded)

Complete the function deep\_q\_learning that updates the model weights, given the transition date (s, c, R(s, c), s').

Please enter the average episodic rewards of your Q-learning algorithm when it converges.

0.48458 ✓ Answer: 0.50

Submit You have used 2 of 6 attempts

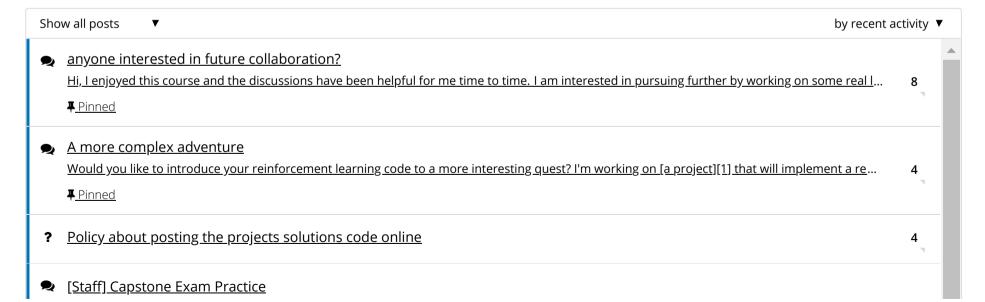
• Answers are displayed within the problem

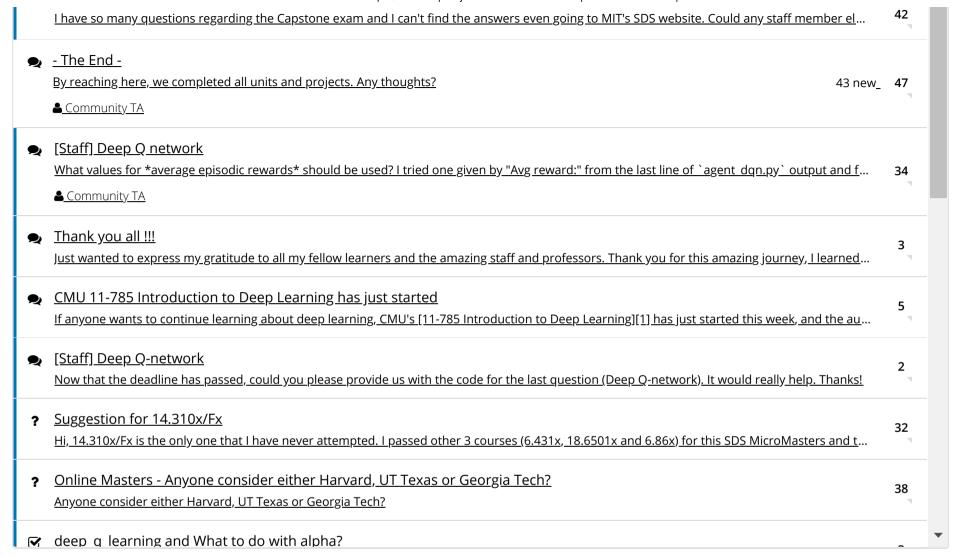
## Discussion

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