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Unit 5 Reinforcement Learning (2

Course > weeks)

5. Parameter Tuning

> Project 5: Text-Based Game >

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5. Parameter Tuning

Effects of adjusting epsilon

0 points possible (ungraded)

Ungrading Note: The problem is now ungraded because there has been a lot of confusion.

In this question, you will investigate the impact of ε on the convergence of Q-learning algorithm. Which of the below do you observe from running the algorithm?



lacksquare For very large arepsilon (say arepsilon=1), the algorithm converges slower compared to $\varepsilon = 0.5$

- For very large ε (say $\varepsilon=1$), the algorithm converges faster compared to $\varepsilon = 0.5$
- For very small arepsilon (say arepsilon=0.00001), the algorithm converges slower compared to arepsilon=0.5
- lacksquare For very small arepsilon (say arepsilon=0.00001), the algorithm converges faster compared to arepsilon=0.5



Solution:

A large value of arepsilon means exploring more (randomly), not using much of what we have learned. A small ε , on the other hand, will generate experience consistent with the current estimates of Q-values, but will explore less. For this toy task, however, the state space is small enough that random initalization is enough to induce diversity in the experience collected.

Submit

You have used 1 of 3 attempts

1 Answers are displayed within the problem

Effects of alpha

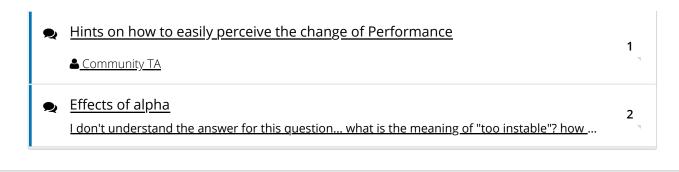
0 points possible (ungraded)

In this question, you will investigate the impact of α on the convergence of Q-learning algorithm. Fix the exploration parameter arepsilon=0.5 and do the experiments with different values of the training $lpha \in [10^{-6},1]$. What you have observed?

Generating Speech Output

5. Parameter Tuning | Project 5: Text-Based Game...

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