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Prof. Kuntz

CS 4300-001

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Project 3 Self Analysis

1. What was the hardest part of the assignment for you?
   The hardest part of this assignment for me was getting value iteration implemented. I kept running into issues translating the process we discussed in class into actual working code. Once I finished the first question, however, things became clearer and the rest of the assignment was a lot easier to implement. There was also a longstanding bug I had where I wasn't passing certain tests on this question. This bug persisted after I moved past the question. Eventually, I realized it was not a bug with my code alone but also my understanding of terminal states. Upon revisiting the course material, fixing this bug furthered my understanding of reinforcement learning as well.
2. What was the easiest part of the assignment for you?
   Questions 2 and 3 were the easiest for me. It didn't take me long to refine the parameters such that the expected behavior manifested. Of these tasks, only a couple such as 3b took a notable amount of fiddling with the parameters to accomplish.
3. What problem(s) helped further your understanding of the course material?
   All of the problems were extremely helpful in allowing me to better understand just how reinforcement learning works in practice. I thought I had a pretty good understanding of the material coming in to the assignment, however was quickly proven wrong. Even though I had the most difficulty with question one, I think that implementing Q-Learning and the subsequent tasks was the most helpful section. The first question clarified more about implementation for me while implementing Q-Learning required me to take a deeper learning into my conceptual understanding of the material as well. Consequently, by the time I was able to implement it, I improved my knowledge of Q-Learning quite a bit.
4. Did you feel any problems were tedious and not helpful to your understanding of the material?
   The questions that were less helpful such as 2 and 3 were so short that they weren't too tedious. And the questions that took me a long time to implement were extremely helpful. Thus, I think all the problems were helpful with respect to how tedious they were and how long they took me to complete.
5. What other feedback do you have about this homework?
   I think that while it was the most helpful homework so far, getting from the more conceptual, mathematical description of some of the topics in class to functional code was a bit too difficult. Maybe in future semesters it would be possible to ideate about how to implement certain functionalities during class to help students cross this gap. Also certain code functionalities like how to deal with the features vector took me a bit of

digging. I may have just missed it in the problem description but maybe briefly addressing structure of these things might help future students.