

## Homework #2

(due: Nov. 18)

Show all the work with neat writing.

**(P1)** In this exercise, we will apply reinforcement learning methods to solve a maze example (maze-sample-10x10-v0) provided by the TA.

- (a) Use the Sarsa algorithm along with the policy improvement to find a solution (policy), and experiment with different step-size parameters, including large, small, and adaptive step sizes. Plot your experiment outcomes.
- (b) Use the Q-learning algorithm to find a solution (policy), and experiment with different step-size parameters, including large, small, and adaptive step sizes. Plot your experiment outcomes.

For both problems, you may use the  $\epsilon$ -greedy strategy. Also refer to Example 6.6 from Sutton and Barto.