6.884 HW1 Seremet Vlad seremetv@

Problem 1

Deliverables:

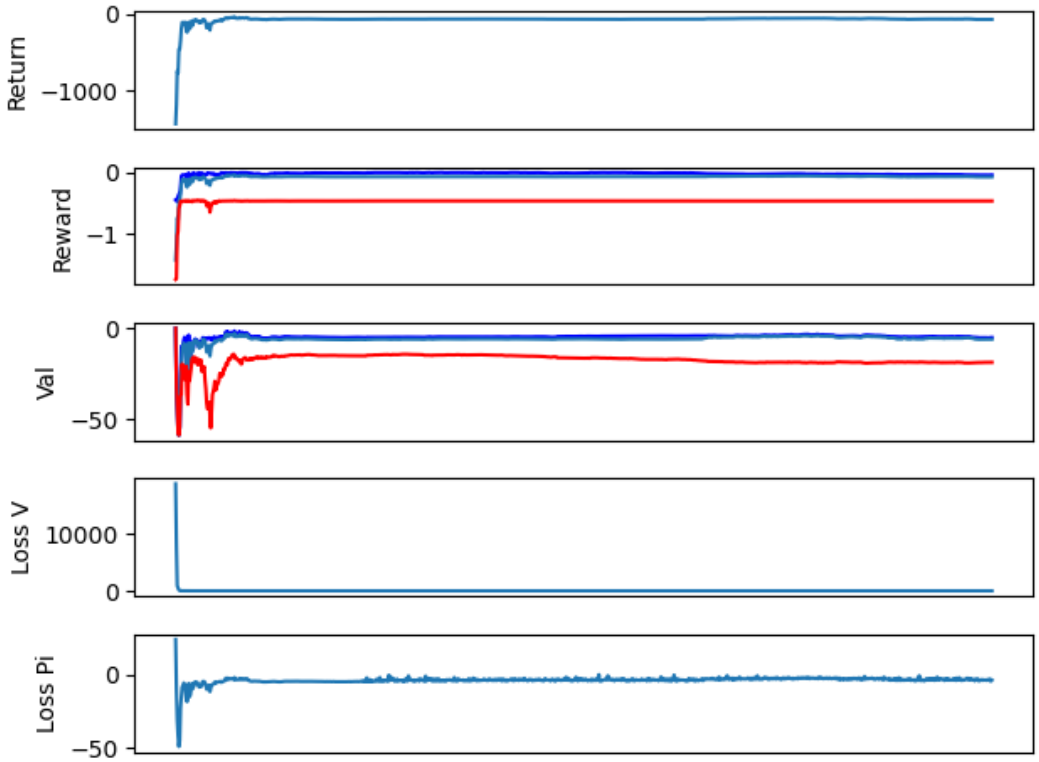
- Source code with a working implementation of PPO (30 pts).

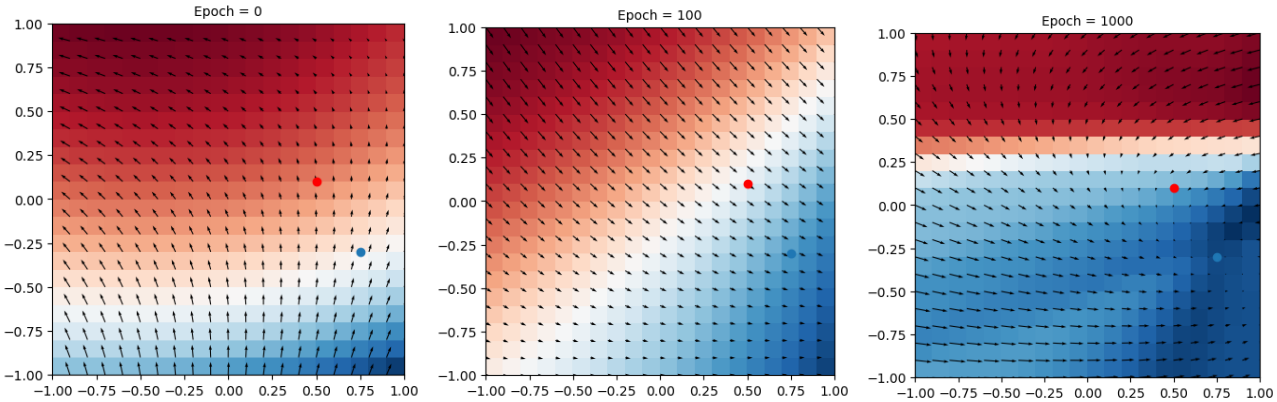
  https://github.com/shervlad/hw1

- A mathematical description of the reward function (15 pts).

  reward = -distance, - distance between the gripper and the goal position.

- Training plot showing rewards as a function of time. Report the average performance over 3 random seeds (15 pts).





- Video showing evaluation of policy (5 pts).

  Video can be found in hw1/videos/

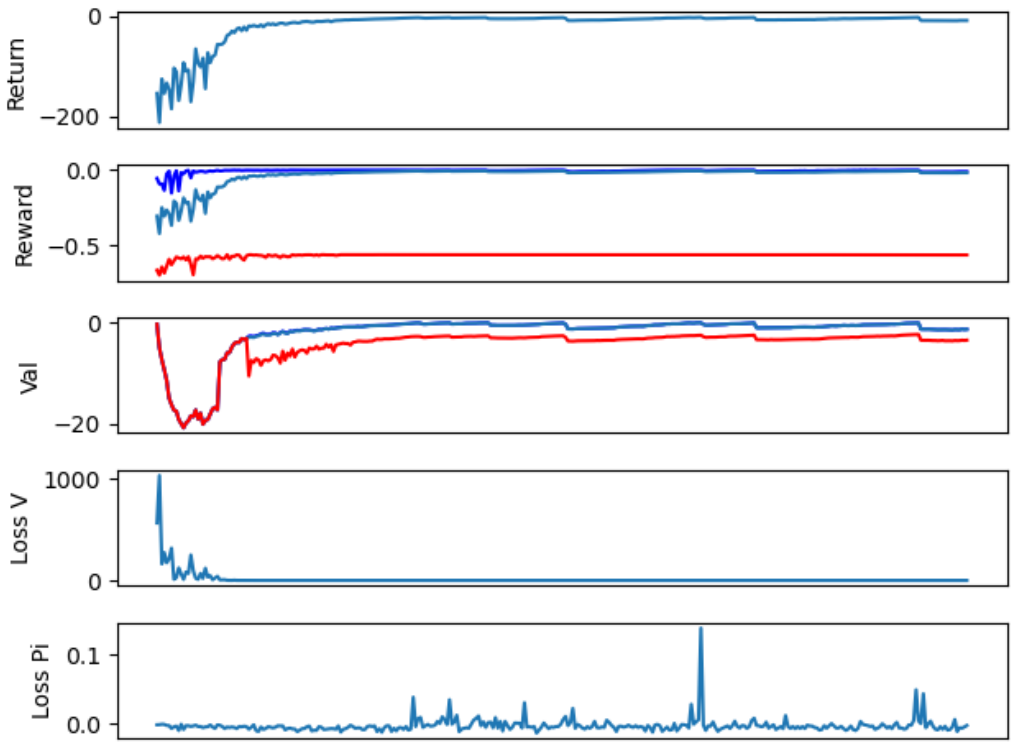
Problem 2

Deliverables

- Answer to part 1 (10 pts).

  The agent succeeds.

- Training plot showing reward as a function of time for part 1. Report the average performance over 3 random seeds (15 pts).



- Video showing evaluation of policy for part 1 (5 pts).

  Video can be found at hw1/videos/reacher_wall.webm

Problem 3

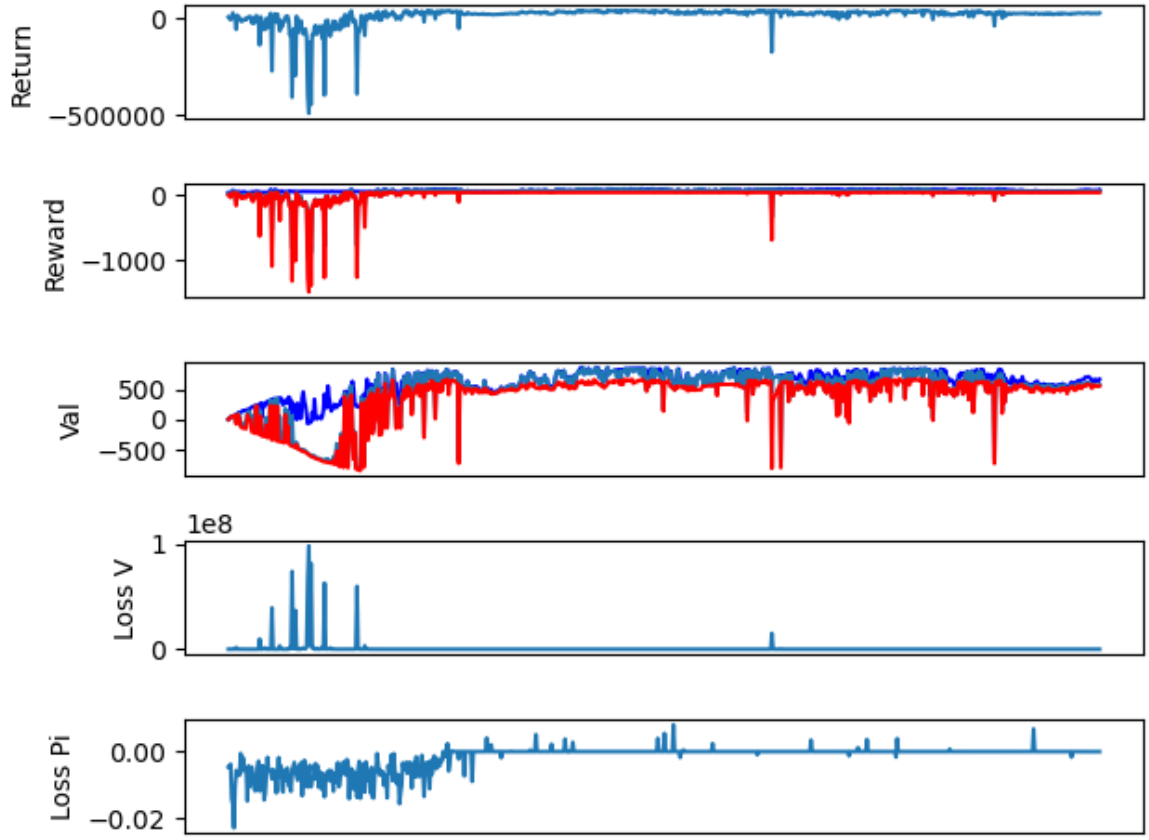
Deliverables

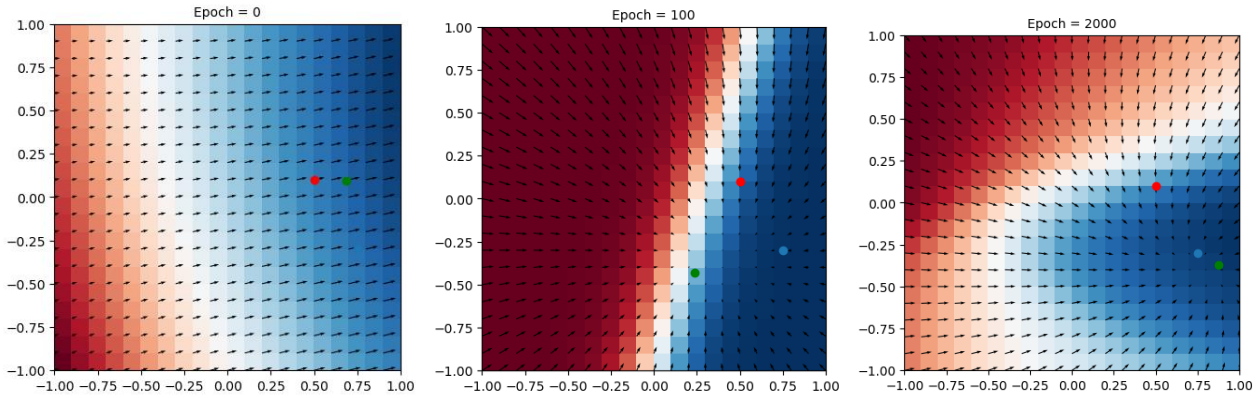
- A mathematical description of the reward function (15 pts).

  reward = 100 - 50*(3*dist + dist2 + ang/5)

  dist = distance between gripper and box
  dist2 = distance between box and goal
  ang = the angle between the (gripper -> box) vector and (box -> goal) vector.
  When this is 0, the gripper, box, and goal are on the same line

- Training plot showing rewards as a function of time. Report the average performance over 3 random seeds (15 pts).





- Video showing evaluation of policy (5 pts).

  Video can be found at hw1/videos/pusher.webm