Name(s): Won Woo Lyu
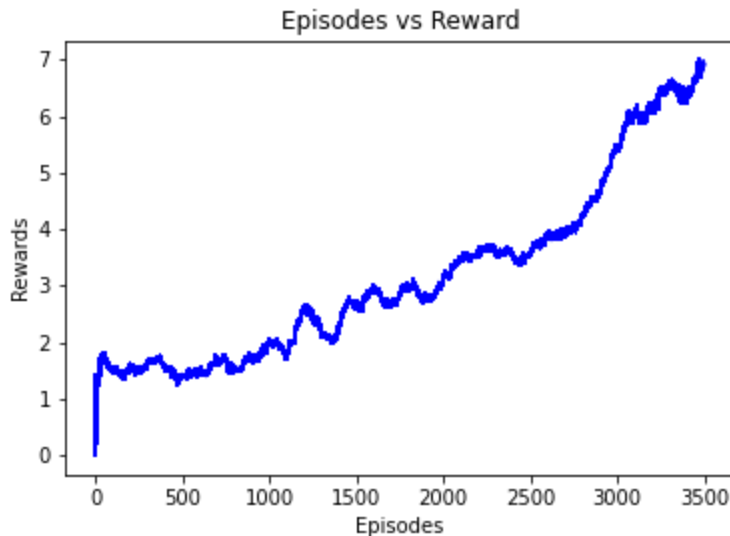**Netid(s):** wlyu2
Mean Reward Reached : 10.92
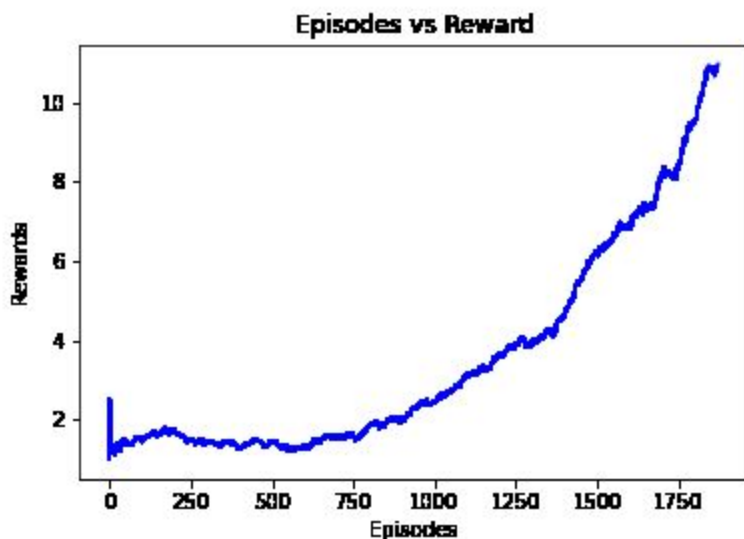**Uploaded Saved Double DQN Model on Compass :** Yes
Uploaded your Agent.py and Agent_double.py file on Compass : Yes
Plot of Mean Evaluation Reward for DQN:

Plot of Mean Evaluation Reward for Double DQN (please run both plots for the same number of episodes):

Provide a few sentences of analysis between the differences between DQN and Double DQN: (Add Here)

    I have stopped the train for Double DQN when the episode is in 1871, because it already exceeded the goal of 10. Even though I left DQN to train until 3500 episodes, it did not achieve the goal of 10 since 6.9 was the highest.This result tells that Double DQN has better performance than DQN. This is because DDQN uses a second model of the main model from

last episode and obtains q-value from this second model since the second model tends to have lower value than the main model. Not using the second model makes sure that the specific action in that specific state will be chosen for every that state when another action in that state can perform better than the chosen one. Since both models have positive slope, there is a possibility that both models will learn more if we train more. However, the certain part from the result is that the double DQN is better than the DQN for this assignment training.

Extra Credit:
1. What games did you apply the extra credit to?
2. What other algorithm did you use? Explain and cite all your sources. Any issues you got in training your new algorithm.