xuwd11 / cs294-112_hws

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run_dqn_atari.py	fix double q	5 months ago
train_ac_f18.py	complete hw3	5 months ago

README.md

CS294-112 HW 3: Q-Learning

Usage

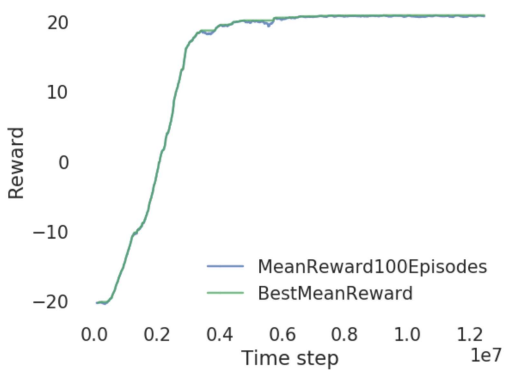
To run all experiments and plot figures for the report, run

```
bash run_11.sh
bash run_12.sh
bash run_13.sh
bash run_14.sh
python plot_part1.py
bash run_21.sh
bash run_22.sh
```

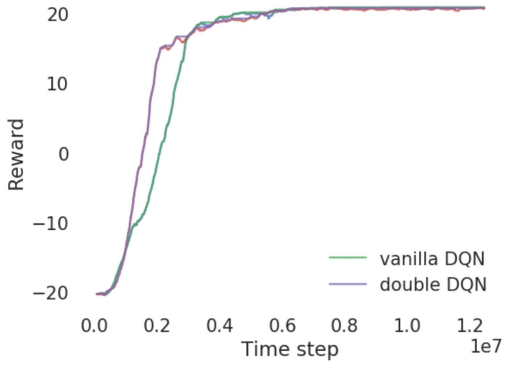
Results

Part 1

Question 1

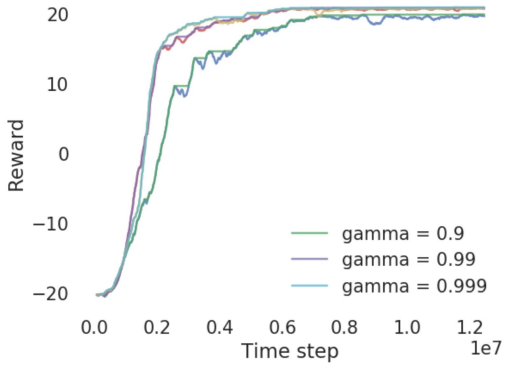


Question 2



Question 3

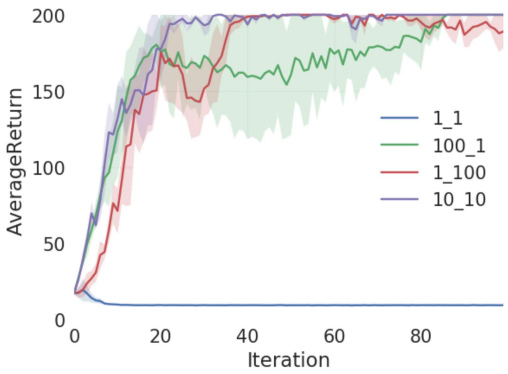
I experimented the effect of discount factor on performance.



As we can see, it takes longer to converge for small discount factor.

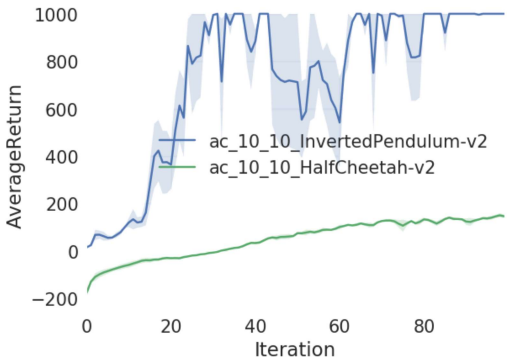
Part 2

Question 1



Setting both `num_grad_steps_per_target_update` and `num_target_updates` to 10 works best.

Question 2



Original README

Dependencies:

- Python **3.5**
- Numpy version **1.14.5**
- TensorFlow version **1.10.5**
- MuJoCo version **1.50** and mujoco-py **1.50.1.56**
- OpenAI Gym version **0.10.5**
- seaborn
- Box2D==**2.3.2**
- OpenCV
- ffmpeg

Before doing anything, first replace `gym/envs/box2d/lunar_lander.py` with the provided `lunar_lander.py` file.

The only files that you need to look at are `dqn.py` and `train_ac_f18.py`, which you will implement.

See the HW3 PDF for further instructions.

The starter code was based on an implementation of Q-learning for Atari generously provided by Szymon Sidor from OpenAI.