Homework 8

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1 Pole balancing

The following parameter are taken for the simulation. The parameter α is only taken for the static algorithm and the initialization for *Rprop*

```
episodes = 100
state_space = 4
sigma_squared = 1e−3
sigma = np.sqrt(sigma_squared)
gamma = 1
max_ep = 500
rew = []
alpha = 0.2
iter = 200
```

Figure 1 is showing the results of the *Vanilla* algorithm and figure **??** shows the *REINFORCE* algorithm. The simulation was done only once. The environment is taken from Sebastian who did implement the Gaussian noise to the cart pole.
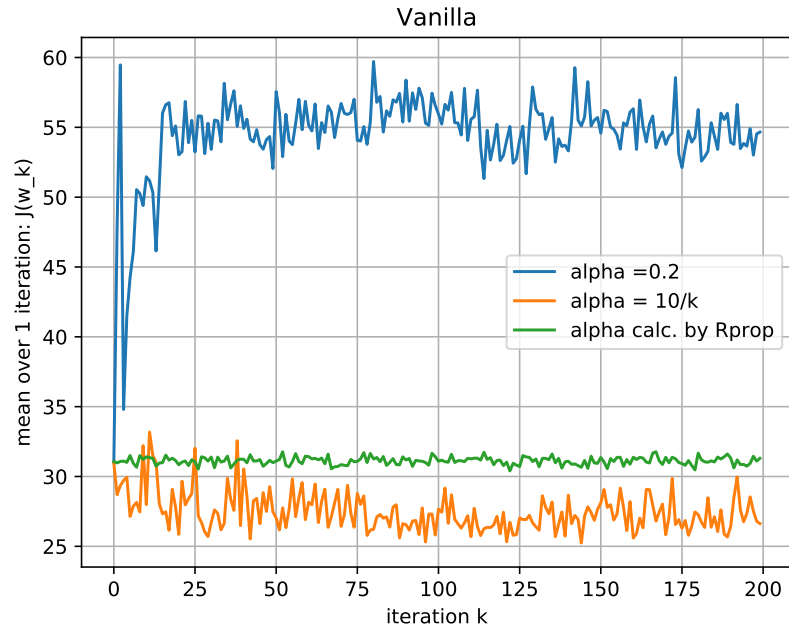
Figure 1: Running *Vanilla* Algorithm for different α.
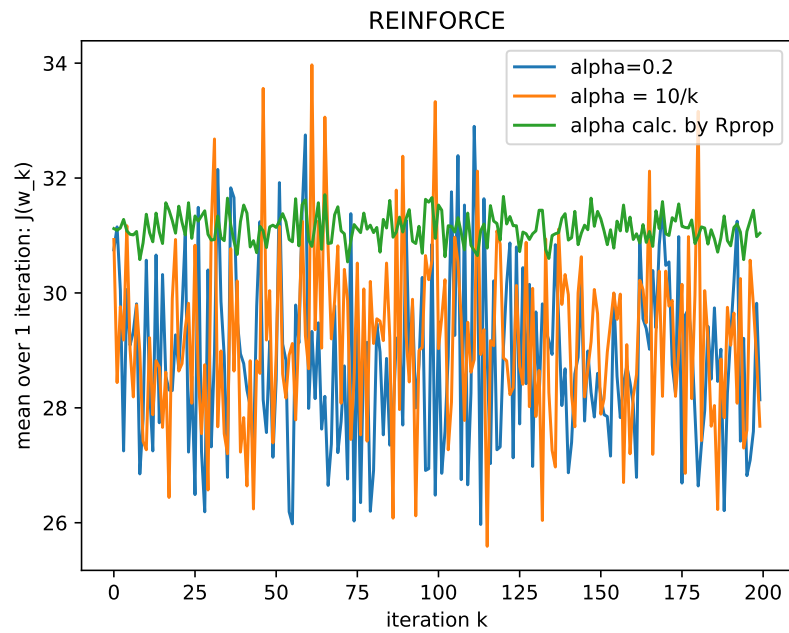

Figure 2: Running *Vanilla* Algorithm for different α.