Assignment #6 Reinforcement Learning

(note: all the answers should be typed in MS-word or Latex and the pdf file is submitted. No handwritten answers are accepted.)

1- What is "planning" in the context of Reinforcement Learning?

2- What is the difference between Dyna-Q and Dyna-Q+ algorithms?

3- Model-based RL methods suffer more bias than model-free methods. Is this statement correct? Why or why not?

4- Model-based RL methods are more sample efficient. Is this statement correct? Why or why not?

5- What are the 4 steps of the MCTS algorithm? How does MCTS balances exploration/exploitation?

6- Exercise 8.1 of the textbook (page 166)

7- Exercise 8.2 of the textbook (page 168)