Reinforcement Learning

**Introduction**

The two problems that I have chosen are the Frozen Lake problem and the Forest Management problem. The Frozen Lake problem has a small amount of states and is represented as a grid world. The Forest Management problem is my large state non-grid world problem.

Come up with 2 interesting MDPs.

- Explain why they are interesting

**Frozen Lake**

**Value Iteration**

How is convergence defined?

How many iterations does it take to converge?

**Policy Iteration**

How is convergence defined?

How many iterations does it take to converge?

**Q-Learning**

For my favorite reinforcement learning algorithm, I chose to use Q-Learning with an epsilon-greedy strategy.

How does it perform?

How is convergence defined?

How many iterations does it take to converge?

How does it compare to the two cases above which knew the model, rewards and so on?

Did some exporation strategies work better than others?

**Comparison**

Did they converge to the same answer?

Which method converged faster?

Why did one method converge faster?

How did the number of states affect things?

**Forest Management**