

CS343

Artificial Intelligence

Prof: Peter Stone

Department of Computer Sciences
The University of Texas at Austin

Good Afternoon, Colleagues

Good Afternoon, Colleagues

Are there any questions?

Logistics

- Next week: RL

Logistics

- Next week: RL
- Multiagent assignment past due

Logistics

- Next week: RL
- Multiagent assignment past due
- RL assignment assigned...

Logistics

- Next week: RL
- Multiagent assignment past due
- RL assignment assigned... but due in 4 weeks

Logistics

- Next week: RL
- Multiagent assignment past due
- RL assignment assigned... but due in 4 weeks
 - Advice: start on it early. But if you get stuck, wait until after next week

Logistics

- Next week: RL
- Multiagent assignment past due
- RL assignment assigned... but due in 4 weeks
 - Advice: start on it early. But if you get stuck, wait until after next week
- Tournament details coming soon

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities
- **This week:** MDPs —

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities
- **This week:** MDPs — towards reinforcement learning

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities
- **This week:** MDPs — towards reinforcement learning
 - Still know transition and reward function

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities
- **This week:** MDPs — towards reinforcement learning
 - Still know transition and reward function
 - Looking for a **policy** — optimal action from every state

Some Context

- **First weeks:** search (BFS, A^* , minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities
- **This week:** MDPs — towards reinforcement learning
 - Still know transition and reward function
 - Looking for a **policy** — optimal action from every state
- **Next week:** Reinforcement learning

Some Context

- **First weeks:** search (BFS, A*, minimax, alpha-beta)
 - Find an optimal plan (or solution)
 - Best thing to do from the current state
 - Assume we know transition function and cost (reward) function
 - Either execute complete solution (deterministic) or search again at every step
- **Last week:** detour for probabilities and utilities
- **This week:** MDPs — towards reinforcement learning
 - Still know transition and reward function
 - Looking for a **policy** — optimal action from every state
- **Next week:** Reinforcement learning
 - Optimal policy without knowing transition or reward function