

Course > Dynam... > Knowle... > Knowle...

Knowledge Checks

Question 1

1/1 point (graded)

Which of the following is a correct definition of a policy, for a Markov Decision Process (MDP)?

- The probability of taking an action given a state and the time of being in that state.
- The probability of taking an action given a state, independent of the time of being in that state.
- The probability of transitioning to a state from the current state, independent of the time of being in that state.
- The probability that a state transition with trigger an action, independent of the time of that action.

Submit

You have used 1 of 2 attempts

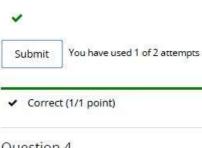
✓ Correct (1/1 point)

Question 2

1/1 point (graded)

	alue of a state is the reward from that state plus the sum over the product of tion probabilities for the next n states.
the su	alue of a state is the sum over all actions, a, given the state, s of the policy, times mover the product of transition probabilities from the state to the next state, so he reward from the state plus the discounted value of the next state.
	alue of a state is the discounted sum over next the product of transition bilities for next states.
next s	alue of a state is the sum over all transition probabilities from the state, s, to the tate, s', times the sum over the product of the policy, and the reward from the plus the discounted value of the next state.
Submit Corre	You have used 1 of 2 attempts ct (1/1 point)
✓ Corre Question (1 point (gray)	ct (1/1 point)
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✓ Corre Question The point (gray) Control The triple of two quation in The triple of two quation in	ct (1/1 point) n 3 ided) of the following statements are correct about the use of the Bellman Optimality Dynamic programming?
✓ Corre (uestion (1 point (gra /hich two quation in ✓ The tr	ct (1/1 point) 1 3 1 3 1 ded) 1 of the following statements are correct about the use of the Bellman Optimality 1 Dynamic programming? ansition probabilities p(s', r s, a) must be completely known.

How can you best describe the Bellman Equations for a Markov Reward Process (MRP)?



Question 4

1/1 point (graded)

Which two of the following are correct statements about the bootstrapping process?

- Bootstrapping uses values from states at future time steps (t + n) to compute the value, v(s), or action value q(a, s).
- Bootstrapping approximates the current state-value estimate based on previously learned estimates.
- Bootstrapping uses a decay factor at each time step to ensure convergence.
- Bootstrapping approximates the current state-action value estimate based on previously learned estimates.



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You have used 1 of 2 attempts

✓ Correct (1/1 point)

Question 5

1/1 point (graded)

Which of the following is a correct statement about the policy improvement theorem?

If greedy policy improvement does not improve the policy, then the policy is optimal.

If iterative policy evaluation does not improve the policy, then the policy is optimal.

If greedy policy improvement does not improve the evaluation of v(s), then the policy in optimal.

If greedy policy improvement does not improve the probability of an action, then the policy is optimal.

Submit

You have used 1 of 2 attempts

Correct (1/1 point)

Question 6

1/1 point (graded)

Which of the following is a correct statement about the difference between policy iteration

Which of the following is a correct statement about the difference between policy iteration and value iteration?

- Value iteration requires convergence of the policy evaluation before policy improvement can be performed, whereas, policy iteration performs policy improvement after each sweep of evaluation.
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- Policy iteration requires convergence of the policy improvement before policy evaluation can be performed, whereas, value iteration performs policy evaluation after each sweep of policy improvement.

9	Policy iteration requires an approximation of policy evaluation before policy improvement can be performed, whereas, value iteration performs policy improvement after each sweep of policy evaluation.
Sı	you have used 1 of 2 attempts
~	Correct (1/1 point)
1 p	estion 7 oint (graded) th of the following are differences between synchronous and asynchronous (in-place) amic Programming (DP)?
0	At each iteration of synchronous DP, v(S) is updated, or backed up, in parallel for all states in one step, whereas in asynchronous DP, only states with high probability are backed-up.
0	At each iteration of asynchronous DP, v(S) is updated, or backed up, one at a time in a sweep, whereas in synchronous DP, states are backed up in parallel for all stats in one step.
•	At each iteration of synchronous DP, v(S) is updated ,or backed up, in parallel for all states in one step, whereas in asynchronous DP, states are updated individually in a sweep.
0	At each iteration of synchronous DP, v(S) is updated, or backed up, in a priority sequence, whereas in asynchronous DP, states are updated individually in a sweep.
Sı	ubmit You have used 1 of 2 attempts

Correct (1/1 point)