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## hw4\_mdps\_q10\_mdp\_properties

### Question 10.1: MDP Properties

5/5 points (ungraded)

Which of the following statements are true for an MDP?

- ☐ If the only difference between two MDPs is the value of the discount factor then they must have the same optimal policy.
- ☒ For an infinite horizon MDP with a finite number of states and actions and with a discount factor  $\gamma$  that satisfies  $0 < \gamma < 1$ , value iteration is guaranteed to converge.
- ☐ When running value iteration, if the policy (the greedy policy with respect to the values) has converged, the values must have converged as well.
- ☐ None of the above



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✓ Correct (5/5 points)

### Question 10.2: MDP Properties Continued

5/5 points (ungraded)

Which of the following statements are true for an MDP?

- ☒ If one is using value iteration and the values have converged, the policy must have converged as well.

- ☐ Expectimax will generally run in the same amount of time as value iteration on a given MDP.
- ☒ For an infinite horizon MDP with a finite number of states and actions and with a discount factor  $\gamma$  that satisfies  $0 < \gamma < 1$ , policy iteration is guaranteed to converge.
- ☐ None of the above



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✓ Correct (5/5 points)