c166f24 Quiz 1- Requires Respondus LockDown Browser

Due Sep 13 at 8:50am **Points** 30
Questions 17
Available Sep 13 at 8am - Sep 13 at 8:55am 55 minutes
Time Limit 45 Minutes
Requires Respondus LockDown Browser

Submission Details:

Time:	24 minutes
Current Score:	30 out of 30
Kept Score:	30 out of 30

Instructions

Calculate answers to two decimal places for accuracy.

This quiz was locked Sep 13 at 8:55am.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	24 minutes	30 out of 30

ⓘ Correct answers are hidden.

Score for this quiz: **30** out of 30
Submitted Sep 13 at 8:33am
This attempt took 24 minutes.

Question 1 — 2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (1,1) at time step 0:

$V_0(1,1)$ =

0

Question 2

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (1,1) at time step 1:

$V_1(1,1)$ =

0

Question 3

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1)	(2, 2)

Actions: down, right	Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (1,1) at time step 2:

$V_2(1,1)$ =

-0.4

Question 4

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (1,2) at time step 0:

$V_0(1,2)$ =

0

Question 5

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (1,2) at time step 1:

$V_1(1,2)$ =

-2

Question 6

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (3,1) at time step 0:

$V_0(3,1)$ =

0

Question 7

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (3,1) at time step 1:

$V_1(3,1)$ =

10

Question 8

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (2,1) at time step 0:

$V_0(2,1)$ =

0

Question 9

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for

required time step:

Provide the value for State (2,1) at time step 1:

$V_1(2,1)$ =

0

Question 10

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (2,1) at time step 2:

$V_2(2,1)$ =

7.6

Question 11

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1)	(2, 2)

Actions: down, right	Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (1,1) at time step 3:

$V_3(1,1)$ =

5.68

Question 12

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (2,1) at time step 3:

$V_3(2,1)$ =

7.6

Question 13

2 / 2 pts

The following MDP world consists of 5 states and 3 actions:

(1, 1) Actions: down, right	(1, 2) Action: Exit = -2
(2, 1) Actions: down, right	(2, 2) Action: Exit = -2
(3, 1) Action: Exit = 10	

When taking action down, it is successful with probability 0.8, otherwise you go right.

When taking action right, it is successful with probability 0.8, otherwise you go down.

When taking action Exit, it is successful with probability 1.0.

The only reward is when taking action Exit, and there is no discounting.

Calculate the value of states using Value Iteration algorithm for required time step:

Provide the value for State (3,1) at time step 3:

$V_3(3,1)$ =

10

Question 14

1 / 1 pts

Based on the values from V_3, what would policy extraction return for state (1, 1)?

- Down
- Right
- Exit
- Unknown

Question 15

1 / 1 pts

Based on the values from V_3, what would policy extraction return for state (2, 1)?

- Down

- Right
- Exit
- Unknown

Question 16

1 / 1 pts

Based on the values from V_3, what would policy extraction return for state (3, 1)?

- Down
- Right
- Exit
- Unknown

Question 17

1 / 1 pts

Based on the values from V_3, what would policy extraction return for state (2, 2)?

- Down
- Right
- Exit
- Unkown

Quiz Score: **30** out of 30

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