In-Video Quizzes Week 4

Practice Quiz, 5 questions

5/5 points (100%)

Congratulations! You passed!

Next Item

1 / 1 point

1.
What is the number of pure strategies that each player has:

a) Both have 2 strategies.

b) Both have 4 strategies.

Correct
(b) is true.

- Each player has two decision nodes and in each decision node there are two possible actions: Left or Right.
- Thus, players 1 and 2 both have 4 pure strategies:
- Left, Left;
- Left, Right;
- Right, Left;
- Right, Right;

c) Player 1 has 2, and player 2 has 4.

d) Player 1 has 3, and player 2 has 4.

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1 / 1 point

2.

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How many subgames are in this game? Which is a subgame perfect equilibrium?

a) There are 1 subgames; (L), (U,D);

b) There are 1 subgames; (L), (U,U);

c) There are 3 subgames; (L), (U,D);

Correct

(c) is true.

- There are 3 subgames: the original game and two single-player subgames (both nodes in which 2 has to decide between U and D).
- In the subgame following 1 choosing L, it is (uniquely) optimal for 2 to choose U; in the subgame such that 1 chooses R, it is (uniquely) optimal for 2 to choose D.
- Then 1 prefers L leading to (2, 0) to R leading to (0, 2).

d) There are 3 subgames; (L), (U,U).

1 / 1 point

3.

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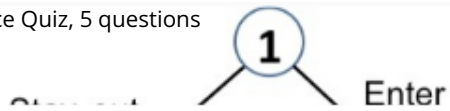
Consider a modified version of the entry game:



Which is the backward induction solution of this game? [Here (Enter,Fight), (Fight, Acc.)) indicates that player 1 chooses Enter at the first decision node and Fight at the second decision node, and 2 chooses Fight at the left node and Accommodate at the right node.]

- a) (Enter, Acc.), (Fight, Fight).
- b) (Enter, Fight), (Acc., Acc.).
- c) (Stay out, Acc.), (Fight, Acc.).
- d) (Enter, Acc.), (Fight, Acc.).

Correct

(d) is true.

- (a) and (b) cannot be the answer:
- If 1 plays Fight, 2 prefers to Fight;
- If 1 plays Acc., 2 prefers to Acc.;
- Thus, the backward induction solution requires 2 playing (Fight, Acc.)
- Since 2 plays (Fight, Acc.), 1 prefers to Acc. than Fight (payoff of Acc. is 3 and payoff of Fight is -2).
- If 1 enters, he knows that by backward induction he will receive 3. This is better than 0, the outcome of staying out.

1 / 1 point

4.

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Consider the modified game:

- Player A makes an offer x in $0, 1, ...10$ to player B;
- Player B can accept or reject;
- A gets $10 - x$ and B gets x if accepted;
- If rejected, player A gets 0 and player B gets a punishment of -1.

Which is a possible outcome (payoff to players A,B) from backward induction?

- a) (9, 1).
- b) (5, 5).
- c) (0, -1).
- d) (10, 0).

Correct

(d) is true.

- In the subgame, it is optimal for B to accept always since by accepting B guarantees a payoff of at least 0, which is larger than the payoff of rejecting (-1).
- (a) and (b) cannot be backward induction outcomes, because A could offer 0 and get a payoff of 10 (since B always accepts).
- (c) cannot be a backward induction outcome since it corresponds to the outcome when B rejects.
- Thus, (d) is the **only** backward induction outcome.

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1 / 1 point

5.

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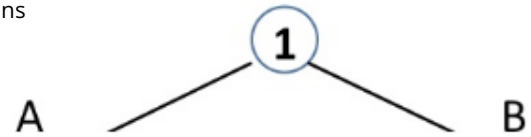
Practice Quiz, 5 questions

5/5 points (100%)

What is player 3's knowledge of player 1's choice:



- a) Player 3 knows nothing.
- b) Player 3 knows only player 2's choice, but not player 1's choice.
- c) Player 3 knows whether it is A or not.

Correct

c) is true.

- From the figure, after 1 makes a choice, 3 knows whether the choice is A or not, but cannot distinguish player 2's choice, whether it was L or R, since they lead to the same information set of player 3.