MA 103Q Game Theory Problems 2

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1. Problem 1a on p. 91 in "Game Theory and Strategy."

    (a) Does Rose have a dominant strategy?

    (b) Does Colin have a dominant strategy?

    (c) If both players use their dominant strategy, the outcome is (3,4). This is not Rose's best outcome. Can Rose make a commitment that will get her a better outcome?

2. Problem 1c on p. 91 in "Game Theory and Strategy."

    (a) Does Rose have a dominant strategy?

    (b) Does Colin have a dominant strategy?

    (c) If Rose assumes that Colin will use his dominant strategy, what strategy should Rose use? What is the outcome?

    (d) The answer to the previous problem is (2,4). This is not a very good outcome for Rose. Can Rose make a commitment that will get her a better outcome?

3. Problem 1d on p. 91 in "Game Theory and Strategy."

    (a) Does Rose have a dominant strategy?

    (b) Does Colin have a dominant strategy?

    (c) If Colin assumes that Rose will use her dominant strategy, what strategy should Colin use? What is the outcome?

    (d) The answer to the previous problem is (2,2). This is not a very good outcome for either player. Can Colin make a commitment that will get him a better outcome? Can Rose?

4. Problem 1e on p. 91 in "Game Theory and Strategy."

    (a) Does Rose have a dominant strategy?

(b) Does Colin have a dominant strategy?

(c) If Rose assumes that Colin will use his dominant strategy, what strategy should Colin use? What is the outcome?

(d) The answer to the previous problem is (3,2). Can Colin make a commitment that will get him a better outcome? Can Rose?

5. In the Prisoner's Dilemma, if each player uses his dominant strategy, the outcome is not very good for either player. Can either player alone get a better outcome by making a commitment?

6. Problem 3 on p. 92 in "Game Theory and Strategy," parts a and b only.