Comments on the Final Exam (Game Theory, Winter 2008)

Statistics

- Mean score: 62.2
- Highest score: 94
- Lowest score: 39
- Standard deviation: 18.89

Comments

- Many of you chose an incorrect answer in 1 (c), whose correct answer is "True." We verified in class that a combination of strategies which is not a NE, e.g., (C,C) in Prisoner's Dilemma, could be sustained in a SPNE in repeated games.

- No one could completely answer questions 4, 5, or 6. Maybe they are too difficult...

- In question 4, there are TWO Nash equilibria, (B,X) and (B,Y). To achieve (A,X) in the first period, player 2 must punish player 1 if she would choose B instead of A. More precisely, they can play (B,X) if (A,X) is indeed played, but switch (B,Y) if one of the players would deviate, which will give us a SPNE sustaining (A,X) in the first period.

- Question 5 is asking you to show the widely known property of Second-price auction. Since your payment is not directly related to your bid (but determined by your rival's bid), there is no benefit to over/under-bid your true valuation. Consider the following two cases separately 1) $v_i \geq b_j$ and 2) $v_i < b_j$. Then, you can see that $b_i = v_i$ becomes a (weakly) optimal strategy.

- Question 6 is new in the sense that you are asked to DRAW a game tree, not to solve questions given a game tree. Maybe I required you too much: the performance of this question turned out to be unexpectedly low... I will put the answer of Question 6 with your returned final exams. Please carefully read it and try to learn how to formally analyze such a complicated real-life situation. I am sure this kind of skill would help you outside of the class room in some day :)