

Microeconomics for Business

Practice Session 4

Instructor: Eloisa Campioni
TA: Ugo Zannini
University of Rome - Tor Vergata

May 4, 2016

Exercise 1. Paul (1) and Beatrice (2) would like to go on a date. They have two options: a quick dinner at Wendy's (W), or dancing at Pravda (P). Paul first chooses where to go, and knowing where Paul went Beatrice also decide where to go. Paul prefers Wendy's, and Beatrice prefers Pravda. A player gets 3 out of his/her preferred date, 1 out of his/her unpreferred date, and 0 if they end up at different places. All these are common knowledge.

- a. Represent the extensive form of the game. Find a subgame-perfect Nash equilibrium.
- b. Modify the game a little bit: Beatrice does not automatically know where Paul went, but she can learn without any cost. (*Hint: That is, now, without knowing where Paul went, Beatrice first chooses between Learn (L) and Not-Learn (N); if she chooses Learn, then she knows where Paul went and then decides where to go; otherwise she chooses where to go without learning where Paul went. The payoffs depend only on where each player goes as before.*) Represent the extensive form of the new game. Find all the subgame-perfect equilibria in pure strategies, then represent the new game in normal form and find the Nash equilibria in pure strategies. Comment on the result.

Exercise 2. Let the preferences of a given consumer be represented by the following utility function $u(\cdot) = \sqrt{w}$, where w is the initial wealth of such consumer. Assume that the consumer owns 400 Euros and he also possesses a lottery ticket which could let him win a prize of 1,200 Euros with probability $1/2$ and 0 Euros with the complementary probability $1/2$.

1. What is the expected utility of this consumer?
2. What is the expected value of the lottery?
3. Assume the consumer is offered 500 Euros in exchange for the lottery ticket. Would he be ready to sell that lottery ticket?