Algorithmic Game Theory and Applications

Tutorial 1, 30. Sep. 2014

Attempt to solve the following questions, so that you are able to contribute to the discussion in the tutorial on 30. Sep. 2014.

1. Find the Nash equilibria of the game described on the last slide of Lecture 1.
2. Consider the following game, about how the sum of 100 pounds is divided between two players.

   Formal description, in extended form:

   - First, Player 1 chooses an integer k with $0 \leq k \leq 100$, and announces k.
   - Then Player 2 chooses between 'Yes' and 'No'.
   - If Player 2 chose 'Yes' then Player 1 gets a payoff of $(100 - k)$ and Player 2 gets a payoff of k.
     If Player 2 chose 'No' then both players get a payoff of 0.

   Describe this game in strategic form. What are the Nash equilibria of this game? How would you play this game if you were Player 1, or Player 2, respectively?