Introduction to Game Theory

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Exercise Sheet 4

Due: Friday, June 12, 2020

Exercise 4.1 (Correlated Equilibria, 1 + 3 points)

Consider the strategic game defined by the following payoff matrix:

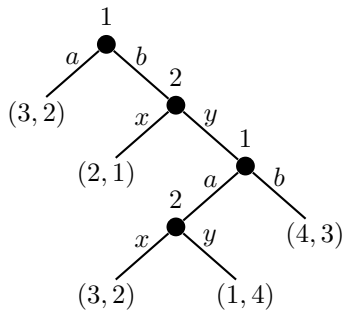
		Player 2 A	Player 2 B
Player 1	A	$-10, -10$	$1, \ 0$
	B	$0, \ 1$	$-1, -1$

(a) Compute the payoff profile for the mixed strategy Nash equilibrium α with the following support sets: $supp(\alpha_1) = supp(\alpha_2) = \{A, B\}$.

(b) Construct a correlated equilibrium that yields a payoff profile such that both players have a higher payoff than in the mixed strategy Nash equilibrium computed above. Specify the probability space (Ω, π), the information partitions $\mathcal{P}_1$ and $\mathcal{P}_2$, and the strategies σ_1 and σ_2.

Exercise 4.2 (Induced Strategic Game, 2 + 2 points)

Consider the two player extensive form game defined by the following game tree.



(a) Specify the induced strategic game.

(b) Determine all Nash equilibria and decide for each one whether it is subgame perfect or not.

The exercise sheets may and should be worked on and handed in in groups of two to three students. Please indicate all names on your solution.