

Game Theory, Fall 2022

Problem Set 8

Due on Nov 21 in class

1. ST 11.1
2. ST 11.2
3. ST 11.4
4. ST 11.6
5. Consider the following infinite horizon alternating offer bargaining over $[0, 1]$ between two agents. Agent 1 proposes in odd periods and agent 2 decides whether to accept or not. Agent 2 proposes in even periods and agent 1 decides whether to accept. Assume there is no discounting. Thus, if the proposal $(x, 1 - x)$ is accepted in any period, agent 1 obtains x and agent 2 obtains $1 - x$, and the game ends. If a proposal is rejected in any period, then the bargaining relationship between the two agents breakdowns with probability $\rho \in (0, 1)$, in which case the game ends and agent 1 obtains $\frac{1}{3}$ and agent 2 obtains $\frac{2}{3}$. With probability $1 - \rho$, the relationship continues and they move into next period. Find a subgame perfect equilibrium.