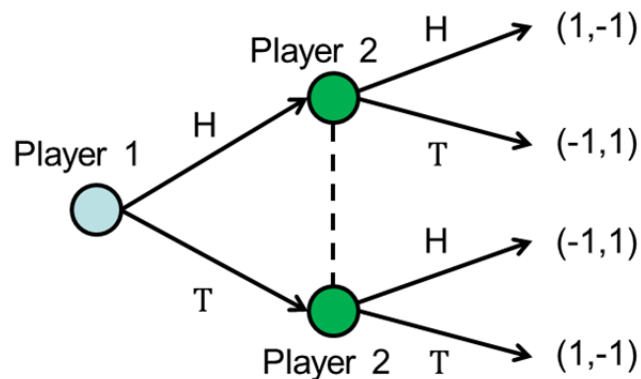


Question 1

A game is given in extensive form:



- Explain why this is a strategic game. Could you write the game in strategic or normal form? What is the name of this game?
- Explain why this is a zero-sum game?
- In relation to this game, could you define and identify:
 - Nash equilibria (pure strategy)
 - Pareto optimal outcomes
 - outcomes that maximize social welfare
- What is Nash's theorem?
- What is the mixed strategy Nash equilibrium in this game?

Question 2

- The "Prisoner's dilemma" game is often interpreted as being proof that somehow cooperation between self-interested agents is impossible. "Program equilibria" is a framework that would allow cooperation as a rational outcome in the one-shot "Prisoner's dilemma". Explain and critically assess these statements.