

# Quiz 8

## Question 1

Trevyr, Colan, and Lio are the dregs of their fantasy football league. It would behoove them to cooperate, but outright collusion is forbidden in their league. Suppose Trevyr, Colan, and Lio independently choose a strategy of trading players amongst each other or an isolation strategy of no trade.

When they all choose an open trade strategy they benefit from an expanded pool of players so they're payoffs are each 4. When any player decides to adopt an isolation strategy it is because they believe they're team to be stronger than the others, so they feel certain they won't finish last. The payoffs to the player(s) practicing isolation are 5 as long as one player is using a trading strategy. The payoff to a player(s) using a trading strategy when at least one other player is not is zero.

However, when all the players decide not to trade it must be because they like the situation of their team, but they also do not benefit from the expanded pool of players and the likelihood they finish last remains unchanged, so their payoffs when they all decide to practice isolationism is 2.

- a. Construct the normal-form game. What is the Nash equilibrium? Is this a prisoners' dilemma?
- b. What is/are the socially optimal outcome(s) of the collective-action game? Is there a way for it to be implemented?

Colin has never finished last so suppose when he practices the isolation strategy he feels fairly confident in his team's capability. When Colin practices isolation and at least one other team does not, his payoff is now 8. When all teams practice isolation the payoff remains the same as above. c. What is the Nash equilibrium of this game? Is this a prisoners' dilemma?

- d. What is/are the socially optimal outcome(s) of the collective-action game? Is there a way for it to be implemented?

## Question 2

"In the presence of very risk-averse bidders, a person selling her house in an auction will have a high expected profit by using a first-price, sealed bid auction." True or false? Explain your answer.