

CIS 7412 Fall 2011 Homework 5

1. Consider the following interaction scenarios:

(a) j

		i	
		defect	cooperate
j	defect	3 3	4 2
	cooperate	1 1	2 4

(b) j

		i	
		defect	cooperate
j	defect	-1 -1	2 1
	cooperate	1 2	-1 -1

(c) j

		i	
		defect	cooperate
j	defect	3 3	1 1
	cooperate	4 2	2 4

For each scenario in turn:

- Informally analyse the scenario to determine what each agent should do.
(5 points)
- Classify the preferences that agents have with respect to outcomes.
(5 points)
- Determine which strategies are strongly or weakly dominated (and explain why)
(5 points)
- Use the idea of deleting strongly dominated strategies to simplify the scenario where appropriate.
(5 points)
- Identify any Nash equilibria.
(5 points)
- Identify the Pareto optimal outcomes.
(5 points)

Note that the marks shown are those for the answer for *each* scenario, so overall the question is worth 90 points.

2. Describe a real-world situation that has the structure of the Stag Hunt game (you aren't allowed to describe either a hunting scenario, or the Haircut scenario discussed in the notes).
(10 points)