1 The Rules of the Game

Table 2: The Prisoner's Dilemma

	Column	
	Deny	*Confess*
Deny	-1,-1	-10, 0
Row		
Confess	0,-10	**- 8,-8**

Payoffs to: (Row,Column)

Players *are the individuals who make decisions. Each player's goal is to maximize his utility by choice of actions.*

An **action** *or* **move** *by player i, denoted a_i, is a choice he can make.*

Player i's **strategy** *s_i is a rule that tells him which action to choose at each instant of the game, given his information set.*

Player i's **strategy set** *or* **strategy space** *$S_i = \{s_i\}$ is the set of strategies available to him.*

A **strategy profile** *$s = (s_1, \ldots, s_n)$ is a list consisting of one strategy for each of the n players in the game.*

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Payoffs to: (Row,Column)

For (1) Simultaneous game, and (2) Sequential game in which Row moves first: what are the

Players

Actions

Strategies

Strategy Sets

Strategy Profiles

By player i's **payoff** $\pi_i(s_1, \ldots, s_n)$, we mean either:

(1) The utility player i receives after all players and Nature have picked their strategies and the game has been played out; or

(2) The expected utility he receives as a function of the strategies chosen by himself and the other players.

A **strategy profile** $s = (s_1, \ldots, s_n)$ is a list consisting of one strategy for each of the n players in the game.

An **equilibrium** $s^* = (s_1^*, \ldots, s_n^*)$ is a strategy profile consisting of a best strategy for each of the n players in the game.

The **outcome** of the game is a set of interesting elements that the modeller picks from the values of actions, payoffs, and other variables after the game is played out.

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Payoffs to: (Row,Column)

For (1) Simultaneous game, and (2) Sequential game in which Row moves first: what are

Payoffs

Equilibria

Outcomes

Table 8: Ranked Coordination

		Jones	
		Large	*Small*
	Large	**2,2**	$\leftarrow$ $-1,-1$
Smith		$\uparrow$	$\downarrow$
	Small	$-1,-1$ $\rightarrow$	**1,1**

Payoffs to: (Smith, Jones). Arrows show how a player can increase his payoff.

Table 9: Dangerous Coordination

		Jones	
		Large	*Small*
	Large	**2,2**	$\leftarrow$ $-1000,-1$
Smith		$\uparrow$	$\downarrow$
	Small	$-1,-1$ $\rightarrow$	**1,1**

Payoffs to: (Smith, Jones). Arrows show how a player can increase his payoff.

You win by matching your response to those of as many of the other players as possible.

1 Circle one of the following numbers: 100, 14, 15, 16, 17, 18.

2 Circle one of the following numbers 7, 100, 13, 261, 99, 666.

3 Name Heads or Tails.

4 Name Tails or Heads.

5 You are to split a pie, and get nothing if your proportions add to more than 100 percent.

6 You are to meet somebody in New York City. When? Where?

The Battle of the Sexes

		Woman		
		Prize Fight		*Ballet*
	Prize Fight	**2,1**	←	0, 0
Man		↑		↓
	Ballet	0, 0	→	**1,2**

Payoffs to: (Man, Woman). Arrows show how a player can increase his payoff.

If there is time, do the sequential Battle of the Sexes, and maybe do Cheap Talk.