Homework 7.1

- Here is the payoff matrix for the most commonly used version of the Prisoner's Dilemma.

  (a) What is Player 1's maximin strategy?

  (b) What is Player 1's minimax regret strategy?

	C	D
C	3, 3	0, 5
D	5, 0	1, 1

- Here is the payoff matrix for the generalized version of the Prisoner's Dilemma. Recall that the constraints on the numbers are as follows:

$$c > a > d > b$$

$$2a > b + c$$

For each possible combination of a, b, c, and d that satisfies the above constraints, what are

(c) Player 1's maximin strategy?

(d) Player 1's minimax regret strategy?

	C	D
C	a, a	b, c
D	c, b	d, d

Homework 7.2

- In the definition of a Bayesian game, why is the following condition part of the definition?

- ***Condition 1***:
  - The games in ***G*** have the same number of agents, and the same ***strategy space*** (set of possible strategies) for each agent. The only difference is in the payoffs of the strategies.

Homework 7.3

- Suppose we have an auction in which the object's owner colludes with the auctioneer in the following fashion:
  - The owner pretends to be one of the bidders, and places bids on the object in an attempt to raise the selling price
  - If the owner's bid wins the auction, then the object remains the property of the owner (and the owner doesn't pay the bid)
  - What is the owner's optimal bidding strategy in each of the following auctions?
    (a) English auction
    (b) First-price sealed-bid auction
    (c) Second-price sealed-bid auction