1. Consider the following game:

		Player 2	
		C	D
Player 1	A	x, x	z, w
	B	w, z	y, y

where y>z , w>x and x>y
This stage game is played an infinite number of times.
a. Find the Nash equilibrium in pure strategies of the stage game.
b. Find the value of the discount factor such that the strategy profile {(A), (C)} is played in each period of the repeated game

2. Find the pure strategy Nash equilibria of the following repeated game

		Player 2		
		L2	M2	R2
Player 1	L1	11, 0	0, 0	6, 6
	M1	10, 10	0, 0	0, 11
	R1	0, 0	8, 8	0, 0

This stage game is repeated 3 periods.

3. The following stage game is played an infinite number of times. Stage game: Two firms, 1and 2, produce an homogeneous good. Firms have no fixed cost and produce at constant marginal cost of 1. By q1 and q2 we denote the quantities produced, respectively, by firm 1 and 2. The inverse demand function is given by P(Q) = 100 – Q where Q = q1 + q2. Firms 1 and 2 simultaneously choose the quantities to produce.
Firms discount their future profits by a factor $0 < d < 1$.
In the infinitively repeated game find the set of values of the discount factor *d* such that the following strategy is an equilibrium:

To collude in period 1, then in periods t > 1, to collude only if the outcome in all previous periods was collusion, otherwise to play Nash equilibrium.

(remember in the collusion each firm produce half of the quantity that maximizes the profits in the case of monopoly)

4. Consider the previous exercise and assume that $c = 0$.
   a. Find the values of δ such that the carrot-stick strategy is an equilibrium when $x = 40$.
   b. Find the values of x such that the carrot-stick strategy is an equilibrium when $\delta = 0.8$.
   (hint: read pag 102 of the book)

5. The following stage game is played three times. Stage game:
3 players simultaneously contribute to a public good G where G is the sum of the contributions. The player i's payoff is given by $0.5\ G - g_i$ where g_i is the contribution of player i. The individual contribution g_i ranges in the interval [0, 10].
Find a Subgame Perfect outcome of the repeated game in which all players choose to contribute 10 at least in one stage.