賽局論作業   古慧雯

1. The following stage game will be repeated infinitely many times, and two players care about the long-run average payoffs.

	s_1	s_2
s_1	2,1	0,0
s_2	0,0	1,2

   (a) What kind of payoffs could they achieve in a Nash equilibrium, if they use pure strategies and they only consider to use finite automata (as illustrated in the textbook) to play the game? Draw a graph with two players' payoffs on two axes and illustrate how Folk Theorem works here.

   (b) In particular, how could they achieve the average payoff of (5/3, 4/3) in a Nash equilibrium? Please draw a finite automaton of the row player's strategy in this Nash equilibrium.

   (c) How will your answer to (a) changes, if these players consider to use mixed strategies.

2. 11.9.5 (The game Chicken is described in figure 1.8(a) instead of figure 1.13(a))

3. 11.9.28 (Consider that both players care about the sum of expected payoffs, i.e. consider $\delta = 1$.)