PRINCIPLES OF MICROECONOMICS (ECON 1101 SECTION 056)
ASSIGNMENT #4

Due Monday, 3 Nov 2008, 5:00 pm. Assignments should be typed and submitted in hardcopy. Calculations may be handwritten but must be neat and professional. Students are welcome to discuss homework in groups, but each student must prepare and submit a unique assignment and note the names of other group members. Answer all parts of all questions.

1. (20 points) Read the following articles. (Ask a reference librarian or the instructor if you need help accessing the articles.)
   - Crenshaw, Albert B. "Visa, MasterCard Lose Supreme Court Appeal." (2004, Oct. 5) *The Washington Post.* p. E5.
   - Sidel, Robin and Wilkie, John. "Plastic Choices Apt to Stretch On Court Move." (2004, Oct. 5) *The Wall Street Journal.* p. C1

   (a) Of what actions were Visa and MasterCard accused? Why were these actions anticompetitive?
   (b) What organization (or organizations) initiated legal action? Are they a federal regulatory agency, a state regulatory agency, or a private business?
   (c) Is the market structure for credit card networks better described as pure monopoly, oligopoly, monopolistic competition, or perfect competition? Why?

2. (40 points) Consider an industry where high entry costs prevent new firms from entering the industry. Suppose that market demand is described by P=600-2Q. Further suppose that fixed costs and marginal costs are both zero.
   (a) Suppose the industry has only one firm, which acts as a profit-maximizing monopolist. Calculate the monopoly price, quantity, and profits.
   (b) Now suppose the industry has two firms, which engage in Cournot quantity competition. Suppose each firm chooses between production quantities of 75 and 100. Provide the payoff matrix to this game.
   (c) Find the Nash equilibrium to the game in (b).
   (d) An outcome in which the two firms arrange to produce the monopolist's quantity is a cartel. What strategies in (b) would a cartel chose? Are any of them Nash equilibria?

3. (20 points) In the payoff matrix below, the numbers before commas are the discount store's profits and the numbers after commas are mainstream store's profits.

		Mainstream store		
		Lower prices	Aggressive marketing	Open new location
Discount Store	Raise quality	30, 90	60, 110	50, 100
	Maintain prices	40, 100	50, 105	55, 110

   (a) Find all Nash equilibria.
   (b) Are there any dominate strategies? If so, list them.

4. (20 points) The *Wall Street Journal* reported the following data on market share for light automobiles in the US in 2008. (In their presentation luxury brands were separated from their owners. Percentages do not add to 100, presumably from rounding error.)

Company	Market Share
General Motors	29.3
Toyota	15.0
Ford	12.1
Chrysler	11.1
Honda	10.0
Nissan	6.2
Volkswagen	4.1
Hyundai	2.6
Mercedes-Benz	1.9
BMW	1.9
Kia	1.8
Mazda	1.7
Subaru	1.5
Mitsubishi	0.8
Suzuki	0.4
Volvo	0.4
Tata	0.4
Porsche	0.2

(a) Calculate the four-firm concentration ratio.
(b) Calculate the Herfindahl-Hirschman Index.
(c) Compare the market concentration of automobiles to other industries.