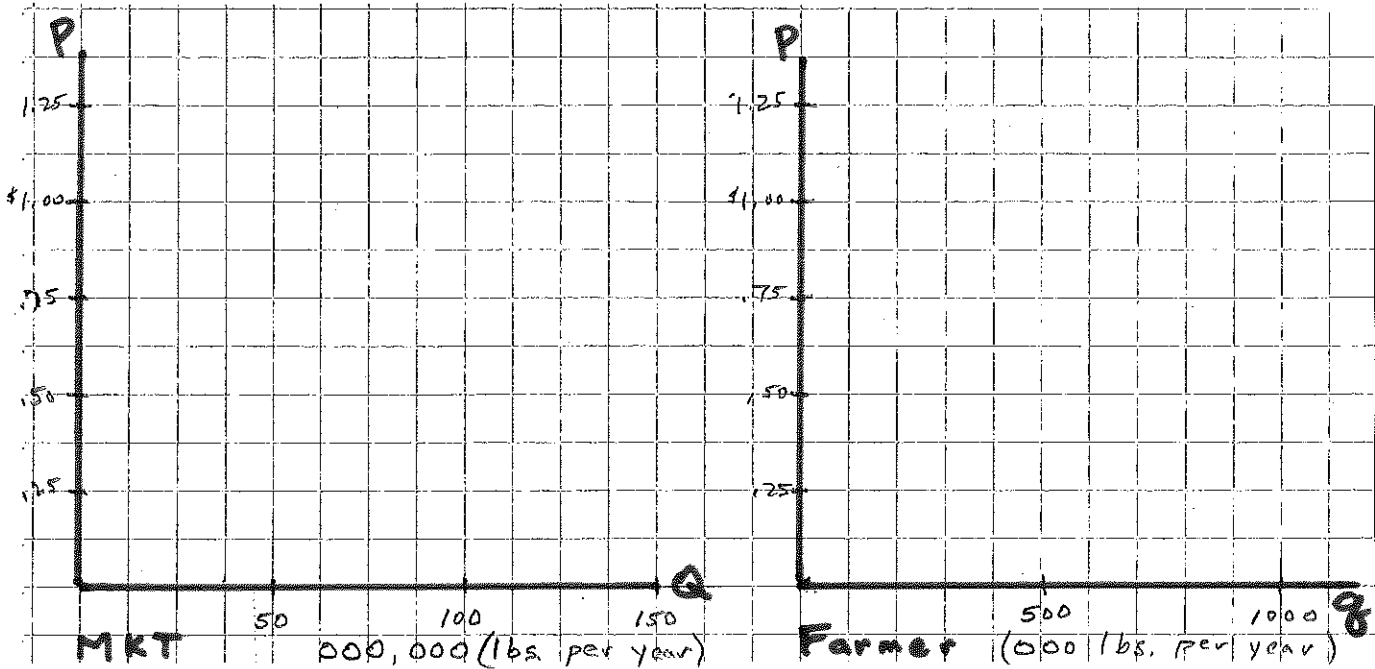


100 points total. Answer each question in the space provided. General advice: show your work, including any formulas or diagrams that you use in reasoning through your answers.

1. (12 pts.) Knowing what you do about the characteristics of different types of markets, briefly explain what type of market structure each of the following markets is:
  - a) Fast-food restaurants in Lexington
  
  - b) Automobiles
  
  - c) Strawberry farming
  
  - d) UK basketball
  
2. (6 pts.) Your parents own and operate a local jewelry store. They buy diamonds at wholesale and sell them at retail. At any point in time they will have some diamonds in inventory that they purchased last month and some that they purchased last year. In their current inventory they have a 1.00 carat diamond of a certain color, clarity, and cut which was purchased a year ago for \$2500. They have an identical diamond that was purchased a month ago for \$3000. To replace such a diamond in their inventory today they would have to pay the current wholesale price, which is \$2750. If the current retail market price for such a diamond is \$2900, how much economic profit would they make from selling the year-old diamond? The month-old diamond? Briefly explain your answer.

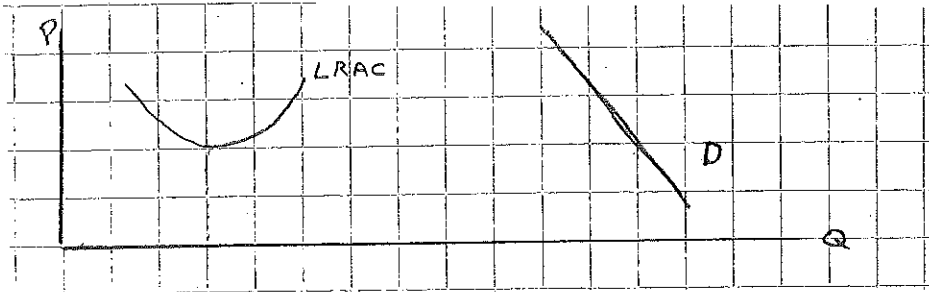
3. (20 pts.) The year is 2007. The market for catfish is in long-run equilibrium, with the price of catfish equal to \$0.75 per pound. A typical catfish farmer produces 500,000 pounds of catfish per year, and the total U.S. production of catfish is 100,000,000 pounds per year.
- (a) In the diagrams below, illustrate the initial situation and label it (a). Your diagrams should include market-level  $D$  and  $S$  curves and firm-level  $d$ ,  $mc$ , and  $atc$  curves consistent with the above facts.



- (b) For a variety of reasons, corn prices increase sharply. Since corn is a primary input in raising catfish, the cost of producing catfish rises by one third. Explain briefly below and illustrate the short-run effect on the costs and profits of catfish farmers in your diagram above.

- (c) Suppose that the increase in corn prices is permanent. Explain below and illustrate above what you think will occur in the catfish farming industry over time. Your answer should address what will happen to market price and output ( $Q$ ), and to the output ( $q$ ) and economic profitability of a typical farmer after the industry has reached a new long-run equilibrium.

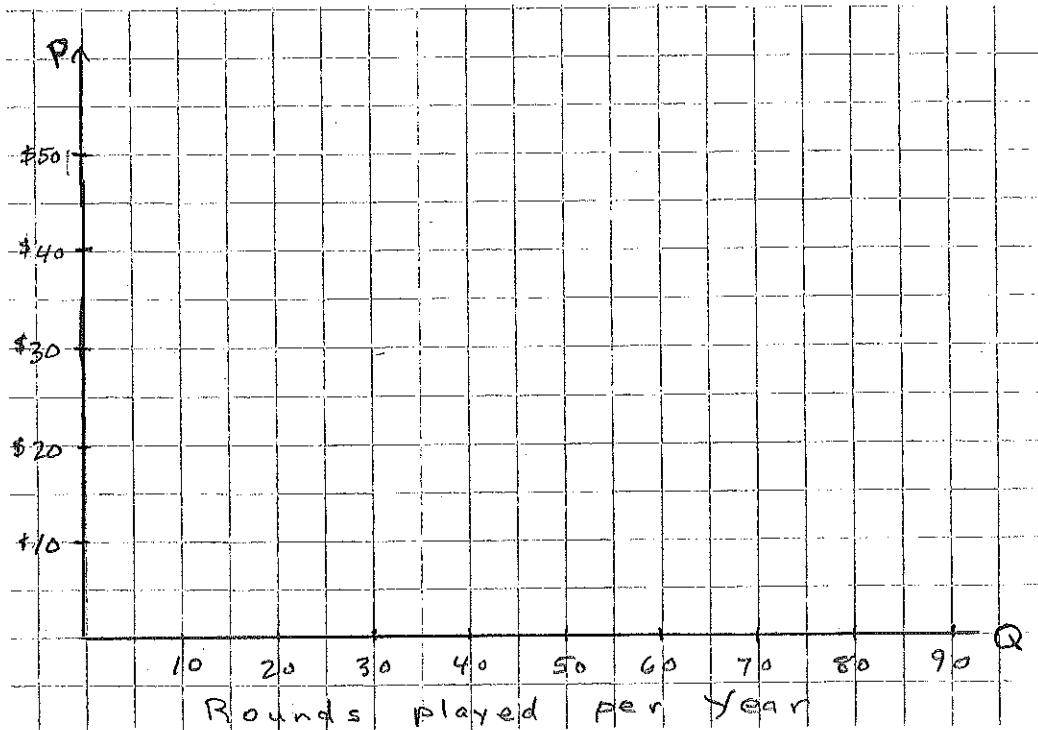
4. (10 pts.) There are two bowling alleys in your hometown. Each is currently producing a rate of output equal to  $Q_0$ . The long-run average cost curve for a typical bowling alley is illustrated below. The market demand curve for bowling in your hometown is labeled  $D$  in the diagram. Explain what you think is likely to happen over time in this market, using the diagram to explain why.



5. (4 pts.) Using Porter's five forces model, briefly explain what popped the cork monopoly.

6. (4 pts.) Who are the antagonists in each of "Techdom's Two Cold Wars"?

7. (20 pts.) Suppose that the mayor's sister is granted a monopoly charter by the Lexington city council to operate a Frisbee golf course. She can produce any level of output that she wishes at a constant marginal cost of \$5 per unit. Since she owns the only Frisbee golf course in town, anyone who wants to play must patronize her course. Assume that all Frisbee golfers are alike, and each one has an annual demand for playing that is given by  $Q=70-2P$ , where  $Q$  refers to the number of rounds played per year and  $P$  refers to price. Graph this demand curve below. What are the monopoly's profit-maximizing price and output? How much profit would she make off of each golfer in a year? A graphical answer is sufficient. Illustrate in the attached diagram.



The mayor's sister hires you as a consultant to help her be more creative in her pricing strategy. She senses that she is not extracting as much "surplus" as is possible out of each customer. (She got that idea from a bar that she patronizes where they charge an entry fee or cover charge and then a per unit price for each glass of beer.) She asks you to devise a two-part price that extracts as much surplus from each customer as is possible. The pricing structure would thus consist of an annual "membership fee" and a price for each round played during the year. What annual membership fee would you suggest that she charge and what price should she charge for each round played? You should refer to your diagram in answering this question.

8. (8pts.) Boeing and Airbus each have three strategy options: (1) do nothing, (2) develop and build a medium to large fuel efficient jet, and (3) develop and build a super-jumbo jet. Boeing is the row player and Airbus is the column player in the payoff matrix below. The profit payoffs to each company are as indicated. What do you predict will be the outcome of this game? Explain the solution concept you use in solving this game:

*Airbus*

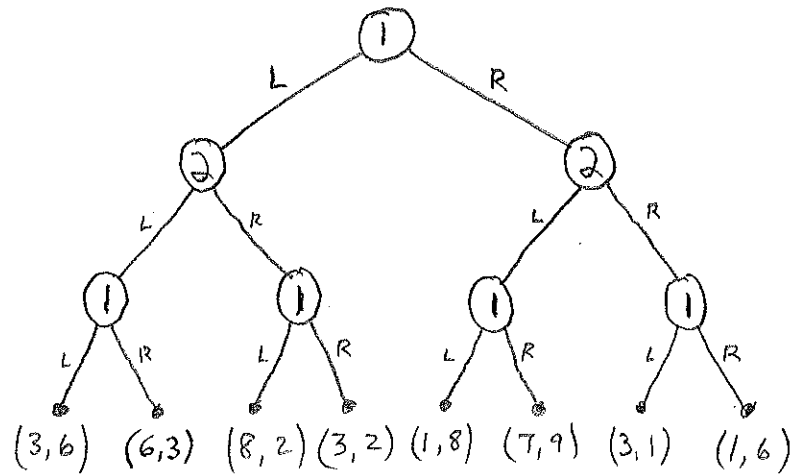
	Do nothing	Medium fuel-efficient jet	Super jumbo jet
<i>Boeing</i> Do nothing	1, 3	4, 0	2, 5
Medium fuel-efficient jet	2, 2	4, 1	5, 6
Super jumbo Jet	4, 2	0, 3	3, 4

9. (8 pts.) A rockslide closes state road KY 519 between Morehead and West Liberty, increasing the driving time from 30 minutes to over two hours. State highway engineers estimate that it will take two years to reopen the road. Understandably, the only two pizza restaurants in West Liberty are ecstatic. Guido's Restaurant, the column player below, has two strategy options: left (expensive deep-dish pizzas) or right (inexpensive thin-crust pizzas). Luigi, who lived in California for several years, has three strategy options at his diner: up (expensive deep-dish pizzas), middle (very expensive organic pizzas), or down (inexpensive thin-crust pizzas). Depending on their own strategy choice and that of their rival, the following payoff matrix describes the profitability of each strategy pair for the two restaurant owners:

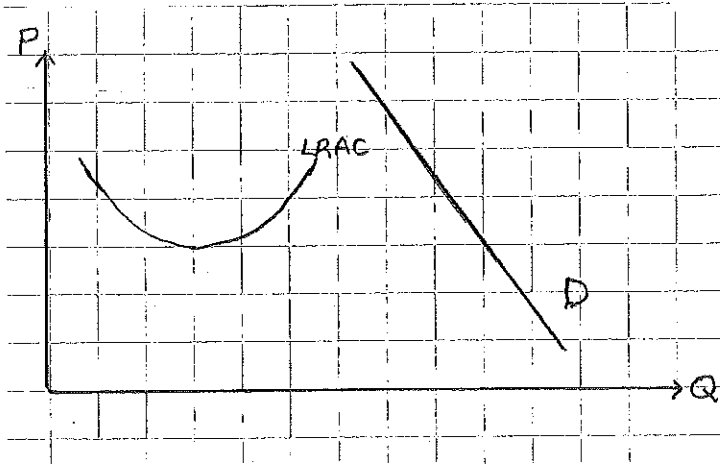
		Guido's Restaurant	
		Left	Right
Luigi's Diner	Up	5, 6	10, 10
	Middle	6, 12	7, 2
	Down	8, 10	4, 12

When you visit West Liberty this fall to check out the cuisine, what menu strategy do you expect each restaurant to have chosen? Explain the solution concepts that you use in arriving at an answer.

10. (8 pts.) In the celebrations following the end of the business fundamentals segment of the daytime MBA program, one of your classmates (who has noticed that some of the revelers no longer seem to be thinking very clearly) devises the following sequential move game in an attempt to raise money to pay her next semester's tuition. She sells the right to be player one and to be player two to classmates who want to play the game. The payoffs below are in dollars, and represent the payoff to player one and to player two. What is the maximum amount you would pay to be player one? Player two? Explain the approach you use to solve the game and arrive at your answer.



4. (10 pts.) There are two bowling alleys in your hometown. Each is currently producing a rate of output equal to  $Q_0$ . The long-run average cost curve for a typical bowling alley is illustrated below. The market demand curve for bowling in your hometown is labeled D in the diagram. Explain what you think is likely to happen over time in this market, using the diagram to explain why.



5. (4 pts.) Using Porter's five forces model, briefly explain what popped the cork monopoly.

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	Boeing		
	Do nothing	Medium fuel-efficient jet	Super jumbo jet
Do nothing	1, 3	2, 2	4, 2
Medium fuel-efficient jet	4, 0	4, 1	0, 3
Super jumbo Jet	2, 5	5, 6	3, 4

Boe  
Airbus

1 3      4 0      2 5  
 2 2      4 1      5 6  
 4 2      0 3      3 4