ECO 610
Problem Set #6
Fall 2019

$$K E Y$$

Instructions: This is a practice assignment, and not to be turned in for grading.

1. The University of Kentucky and the University of Louisville are both considering entering the Executive MBA market. They are the only viable suppliers of EMBA's in the region, and both understand their own and their rival's position in the marketplace. UK can design and put together a program that is high quality, with a commensurate high price, or they can offer a lower quality EMBA that is also lower-priced. UL has a similar strategy choice. They have each independently estimated the economic payoffs to their alternative strategies, given the strategy choice of their rival. Since it takes time to plan curriculum and program delivery, and to recruit and admit students, this market interaction between UK and UL is best evaluated as a simultaneous-move game. The payoff matrix for this game is illustrated below:

		U of L	
		High price, high quality	Low price, low quality
U of K	High price, high quality	**200, 40**	**350, 50**
	Low price, low quality	**280, 100**	**400, 80**

What do you predict will be the outcome of this strategic game? Explain how you arrive at your answer, using solution strategies we discussed in class.

UL's best response to UK's hp/hq strategy is lp/lq. Their best response to UK's lp/lq strategy is hp/hq.

UK's best response to UL's hp/hq strategy is lp/lq. Their best response to UL's lp/lq strategy is lp/lq.

UK has a dominant strategy of low price/low quality. UL, realizing this, will choose high price/high quality. UK's payoff will be 280 and UL's payoff will be 100. This strategy pair is a Nash equilibrium because each university's strategy choice is their best response to the strategy chosen by the other one.

2. Now suppose that the Gatton College MBA Policy Committee understands the difference between static games and dynamic games, and that they can speed up the development and launch of UK's EMBA program and beat UL to the market, i.e. move first in this game and leave UL to react to their strategy choice. Alternatively, they can drag their feet and let UL be first into the market and then react to UL's strategy choice. What would you recommend that they do? Illustrate your answer by drawing two game trees corresponding to the two different scenarios, and explain what the outcome of each of the games will be.

The game now becomes dynamic, in that UK is able to determine whether they go first or allow UL to go first. Each will look ahead and reason backward, i.e. use backward induction, in deciding on their choice of a strategy. The respective game trees are illustrated below. If UK speeds up and goes first, they will choose hp/hq. UL will then choose lp/lq because that strategy yields a payoff of 50 rather than 40. UK ends up with a payoff of 350. If UK drags its feet and lets UL go first, UL will choose hp/hq. UK will then choose lp/lq, because 280 is preferred to 200. UL will earn a payoff of 100. So UK has an incentive to move quickly and make its strategy choice before UL can get moving, because moving first allows it to achieve a payoff of 350 rather than 280.