Wilf Csaplar Jr.　　　　　　Economics 304　　　　　Homework #4　　　　　**Due Tuesday 2/21**

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type this assignment will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

1) (25 points) Explain how a tit-for-tat strategy could result in a cooperative equilibrium. Create a 2x2 payoff matrix to use while illustrating your point.

2A) (20 points) Create a payoff matrix for the following sequential game for the motorcycle industry. Find the equilibrium. Explain how you found it. (This is based upon my uneducated guess about what was happening in 2019.)
https://www.visordown.com/news/new-bikes/bmw-r18-spotted-final-form-ahead-eicma-debut

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                              /High price (100, 40)
            _____ Harley Davidson
      /Enter                  \Low Price (-10, 10)
BMW                           High Price (0, 400)
      \Stay out    Harley Davidson/
                              \Low Price (0, 200)
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2B) (15 points) Is threatening to charge a low price a credible threat for Harley Davidson? Explain your logic. Explain how building excess capacity could change the game such that Harley Davidson's threat of lowering their price when there is entry, could become a credible threat.

3) (20 points) Draw the decision tree for the following situation. Then find the equilibrium. Explain how you found the equilibrium. Do not worry about the payoff matrix. Pepsi decides whether to charge a high price or a low price. Then Coke makes the same decision. If both charge a high price, they both earn $100. If both charge a low price, both earn $30. If one charges a high price and the other charges a low price. The one charging a low price will earn $120 and the one charging a high price will gain $20.

4) (20 points) Draw the decision tree for the following situation. Then find the equilibrium. Explain how you found the equilibrium. Do not worry about the payoff matrix. Apple decides whether to charge a high price or a low price. Then Samsung makes the same decision. If both charge a high price, they both earn $70. If both charge a low price, both earn $60. If Apple charges a high price and the Samsung charges a low price then Apple will get $90 and Samsung will get $40. If Apple charges a low price and the Samsung charges a high price then Apple will get $100 and Samsung will get $30.