

## Problem Set 5

1. As an example of a payoff: If nature draws a high card, player 1 raises, and player 2 meets, then the payoff is  $(k + 1, -k - 1)$  for player 1 and 2 respectively. Think about what happens to the probability that player 1 bluffs as you change  $k$ .
2. Solve for your SPNE, then see if you can find beliefs that support a PBE.
3. An equilibrium in this game is a strategy for the sender, a strategy for the receiver and beliefs of the receiver. If both a strong and weak sender play  $R$  in our PBE, then  $Prob[\text{sender is strong} | R] = 1/2$ .
4. For part (a): you want a price where lemons are sold and good cars are not. For part (b): you want to show that there is NO price where all cars are sold. For part (c): Be sure to update your probabilities using Bayes Rule. E.g.,  $Pr(\text{Car is a Lemon} | P = 5000) = Pr(\text{Lemon And 5000})/Pr(5000)$ . So pick your  $p$ 's and  $q$ 's so that Beverly is indifferent between pricing at 5000 and pricing at 2000 and so that Jim is indifferent between buying and not buying.
5. N/A.