

Problem Set 1

1. Just apply the algorithm from the lecture/text.
2. Write down the game in normal form and determine the relationship between the payoffs to make it look like the prisoner's dilemma. Note that in the PD game, there is an outcome which is NOT a NE that yields strictly better payoffs for both players compared to the actual NE.
3. Using table 2, write down the game once you take into account the altruistic preferences of the players.
4. Note the payoff (for player 1) is $0.5 * f(x_1, x_2) - c(x_1)$. You might consider drawing a graph of the best response functions for each player and see where they intersect. Intersections of best response functions imply a NE. Note the squared term in the cost function in part (a).
5. The important thing to is to determine how the fixed costs affect the best response functions for each firm. Again, a graph is helpful.
6. Be sure to justify WHY your set of prices is a NE.