Stat 155 Homework # 7 Due April 7

Problems:

Q 1 Karlin-Peres Chapter 3 Q 3.18

Q 2 On a TV show two contestants must choose between 4 with values d_1, d_2, d_3 and d_4 (you can assume they are all positive). If they choose different prizes they both get their choice but if they choose the same prize it is destroyed and they leave with nothing.

(a) Write down the payoff matrix.

(b) Describe the pure Nash equilibria of the game.

(c) Find the symmetric mixed Nash equilibria of the game.

Q 3 Two players play a card game with a standard well shuffled deck of cards. Player 1 draws a card at random from the deck without showing it to player 2. Player 1 can either say "ace" or "pass". If player 1 says ace then player 2 must either "accept" and give \$ 1 to player 1 or "reject" and claim that player 1 is lying. If the card is an ace player 1 gets \$ 2 from player 2 while if it is not an ace player 1 pays player 2 a penalty or \$ R.

For each value of R find the Nash equilibrium for this game and the expected payment.