Statistics 473: Game Theory
Problem Set 8

Due: Thursday March 21:

From the text do problems: 210.3, 211.1, 227.2

1) An incident occurs between two superpowers (Players 1 and 2). Player 1 first has to decide whether to ignore the incident or escalate. If he ignores the incident the payoffs are (-1,1). If Player 1 escalates, Player 2 has to decide whether to back down or risk a nuclear conflict. If Player 2 decides to backdown the payoffs are (10,-10). If Player 2 decides to risk a nuclear conflict each player simultaneously decides to deploy weapons or retreat. If ether player chooses to deploy weapons the payoff is (-100,-100), as the other will retaliate. If both retreat, the payoff is (-5,-5). Find all pure strategy Nash equilibria and subgame perfect equilibria.