Math 180 **Homework** #6
Due Wednesday, October 23

1. Give an example of an outcome matrix for a two-player game where one player has three strategies, one of which is strictly dominated; and the other player has three strategies, one of which is weakly (but not strictly) dominated. Indicate the dominated strategies.

2. Consider the following outcome matrix.

	A	B	C
a	1,1	0,1	3,1
b	1,0	2,2	1,3
c	1,3	3,1	2,2

   (a) Are there any strictly dominated strategies? Are there any weakly dominated strategies? If so, explain what dominates what and how.

   (b) After deleting any strictly or weakly dominated strategies, are there any strictly or weakly dominated strategies in the 'reduced' game?

   (c) Go back to your argument for deleting in the first 'round' and recall what dominated what and how. Compare this with what was deleted in the 'second' round. How might this make you a bit cautious when iteratively deleting weakly dominated strategies?

3. Consider the following outcome matrix.

	A	B	C
a	4,2	2,3	3,0
b	1,1	1,2	0,2
c	2,0	3,4	1,3

   (a) Find the Nash equilibria of this game.

   (b) Argue as carefully but as concisely as you can that strategies that form part of a Nash equilibrium are never eliminated by iterative deletion of strictly dominated strategies.

4. In the video linked to on the homework page, Russell Crowe attempts to explain Nash equilibria.

   (a) Draw an outcome matrix corresponding to the game that he explains in the clip (feel free to choose your own payoffs)

   (b) What are the Nash equilibria of the game?