1. Consider the Bayesian game with two players 1 and 2. The set of actions for player 1 is $\{U, D\}$, the set of actions for player 2 is $\{L, M, R\}$. They may play one of the two games given below:

		2		
		L	M	R
1	U	3, 2	3, 0	3, 3
	D	6, 6	0, 0	0, 9

G1

		2		
		L	M	R
1	U	3, 2	3, 3	3, 0
	D	6, 6	0, 9	0, 0

G2

(a) Suppose both players are fully informed as to which game they are playing, find the NE. (2 points)

(b) Suppose now that G1 and G2 may be played with probability 0.5. Player 1 knows whether they are playing G1 or G2, but player 2 does not. Find the BNE of the Bayesian game. (3 points)

Answer:

(a) Unique NE if G1 is played (U,R). Unique NE if G2 is played (U, M).

(b) The strategic form

	2		
	L	M	R
UU	3, 2	3, 1.5	3, 1.5
UD	4.5, 4	1.5, 4.5	1.5, 1.5
DU	4.5, 4	1.5, 1.5	1.5, 4.5
DD	6, 6	0, 4.5	0, 4.5

The unique BNE is (DD, L)