Graduate Microeconomics I
Problem Set 10
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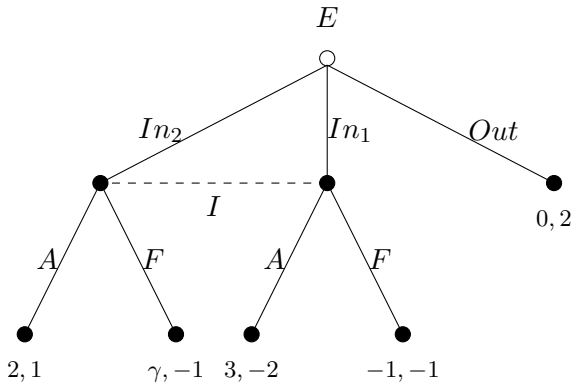
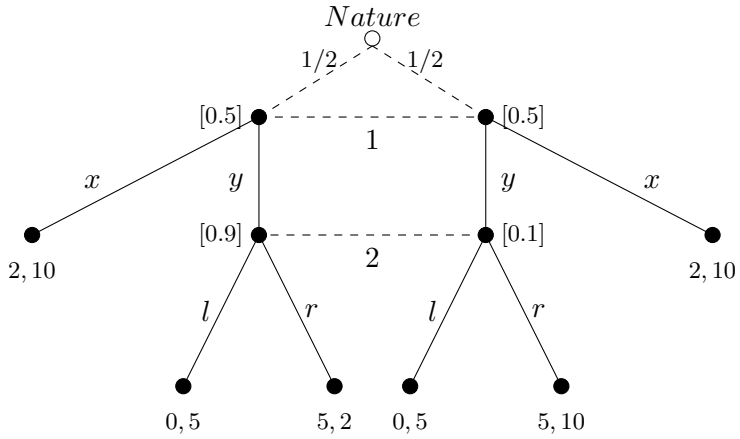
1. Consider the following game where firm E must decide whether to enter the market or stay out. In the former case, E must also choose between two alternative investments: In_1 or In_2. If firm E enters the market, the incumbent I is unaware of which investment E has undertaken and must decide whether to fight back (F) or accommodate (A). The game is illustrated in the figure below where $\gamma > -1$[1]:



   (a) Determine the set of weak Perfect Bayesian Equilibria.

   (b) Determine the set of Sequential Equilibria.

2. Consider the following game where the nature plays first, then player 1 chooses between x and y and, if called to play, player 2 chooses between l and r. The game is shown below where players' beliefs are indicated by numbers in square brackets at the nodes in each information set.

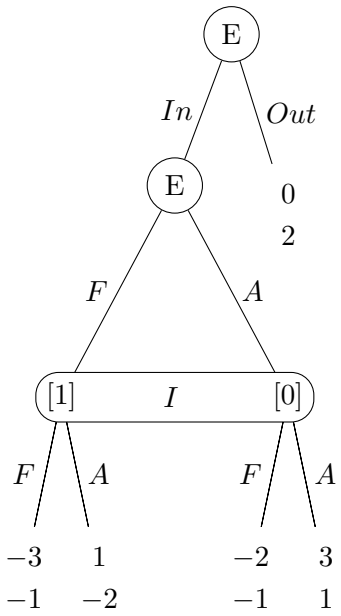


[1] In the tree, the first payoff is that of player E and the second payoff is that of player I.

(a) Check whether the strategies *player 1 always chooses x and player 2 always chooses l* along with the beliefs depicted in the above figure constitute a Weak Perfect Bayesian Equilibrium.

(b) Determine the set of Sequential Equilibria.

3. Consider the entry game shown in the figure below.



(a) Check if the strategies *(Out, Accommodate if In)* for player E and *(Fight if E plays In)* for player I along with the beliefs indicated by numbers in square brackets at the node of I's information set constitute a weak Perfect Bayesian Equilibrium.

(b) Determine the set of Sequential Equilibria.