Assignment

Questions from the textbook.
  1. Chapter 2, Exercise 2
  2. Chapter 2, Exercise 3

Question 1. (from Osborne 155.2) An incumbent faces the possibility of entry by a challenger. (For example, the challenger may be a firm considering entry into a monopolized industry.) The challenger may enter or not. If it enters, the incumbent may either acquiesce or fight. The best outcome for the challenger is that it enters and the incumbent acquiesce, and the worst outcome is that it enters and the incumbent fights. The best outcome for the incumbent is that the challenger stays out, and the worst outcome is that it enters and there is a fight.

  a) Model this situation as an extensive form game using a game tree.

Question 2. (from Osborne 156.2) The political figures Rosa and Ernesto have to choose either Berlin (B) or Havana (H) as the location for a party congress. They choose sequentially. A third person, Karl, determines who chooses first. Both Rosa and Ernesto care only about the actions they choose, not about who chooses first. Rosa prefers the outcome in which both she and Ernesto choose B to that in which they both choose H, and prefers this outcome to either of the ones in which she and Ernesto choose different actions; she is indifferent between these last two outcomes. Ernesto's preferences differ from Rosa's in that the roles of B and H are reversed. Karl's preferences are the same as Ernesto's.

  a) Model this situation as an extensive form game using a game tree.

Question 3. (from Osborne 163.2 and 173.3) Two people select a policy that affects them both by alternatively vetoing policies until only one remains. First person 1 vetoes a policy. If more than one policy remains, person 2 then vetoes a policy. If more than one policy still remains, person 1 then vetoes another policy. The process continues until a single policy remains unvetoed. Suppose there are three possible policies, X, Y, and Z, person 1 prefers X to Y to Z, and person 2 prefers Z to Y to X.

  a) Model this situation as an extensive form game using a game tree.

Question 4. (from Osborne 173.4) Army 1, of country 1, must decide whether to attack army 2, of country 2, which is occupying an island between the two countries. In the event of an attack, army 2 may fight, or retreat over a bridge to its mainland. Each army prefers to occupy the island than not to occupy it; a fight its the worst outcome for both armies.

  a) Model this situation as an extensive form game using a game tree.