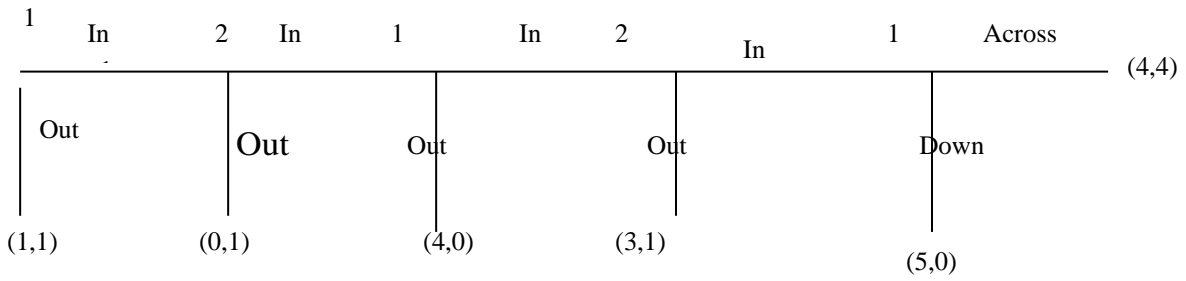


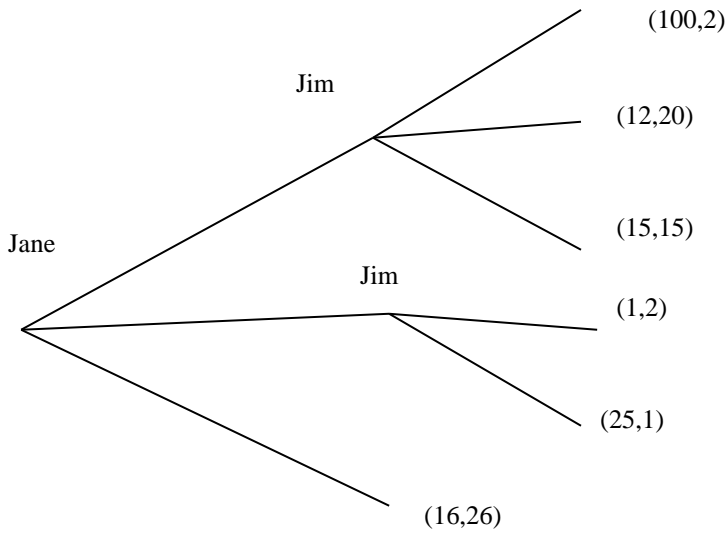
Problem Set 2
 HONORS 259L
 Due October 2.
 (Two of these questions will be graded.)

1) Solve the following games back to front:

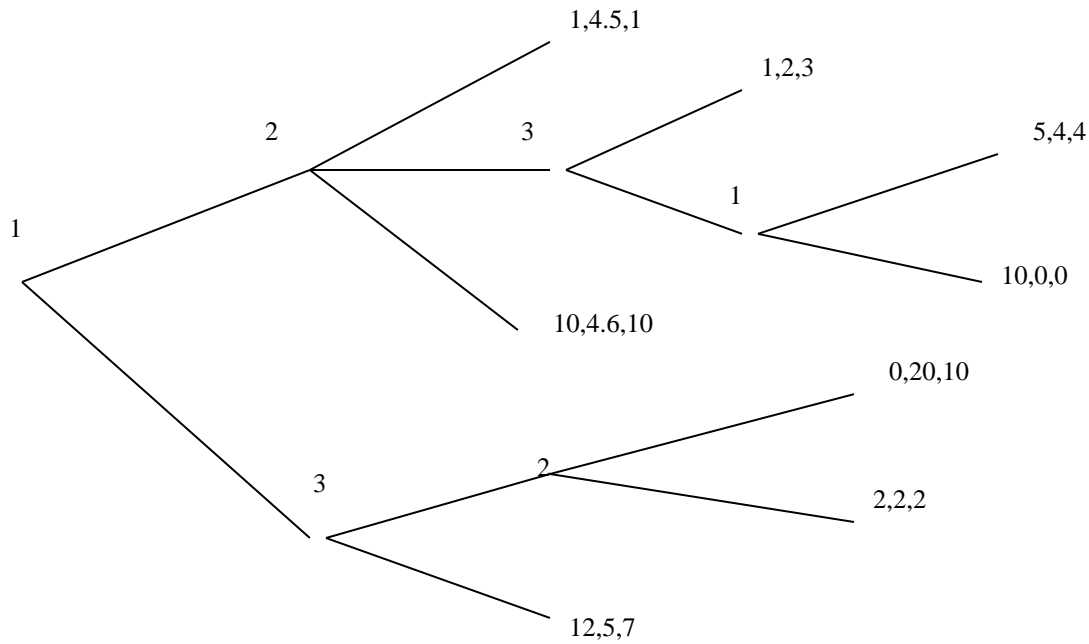
i) First number is payoff to 1, second is payoff to 2.



ii) Jane's payoffs are shown first.



iii) Player 1 payoff, then Player 2 payoff then Player 3 payoffs are shown.



- 2) Suppose two players are bargaining over how to divide one quart of ice cream. The game proceeds as follows: Player A proposes a split. If Player B accepts, the split is as suggested. If Player B rejects, $\frac{1}{4}$ of the quart of ice cream melts and Player B proposes a split. Solve the game back to front for the following end of game scenarios:
- If Player A accepts, the remaining ice cream is split as suggested. If Player A rejects, the ice cream melts and no one gets anything.
 - If Player A accepts, the remaining ice cream is split as suggested. If Player A rejects, another quarter of a quart of ice melts and Player B makes a final proposal. If A accepts, the ice cream that remains is split as suggested, else all the ice cream melts.
- 3) Consider the following addition game between two players. When it is his or her move, each player can add any number of apples to a bucket between 1 and 9. Each player must add at least one apple when it is their turn. Bob goes first, then Brenda moves. The first player to get 100 apples in the bucket wins. Solve this game from back to front and determine who should win.