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Assessment 1
Part 4

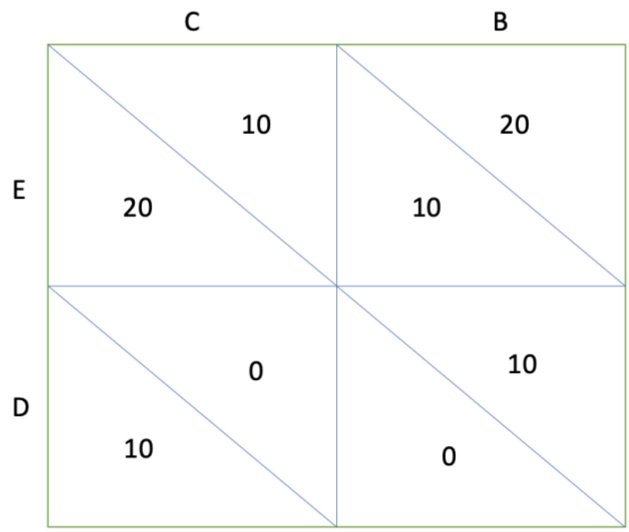
a) *Represent the game as a payoff matrix.*

1: {C, B}

2: {E, D}

Player 1

Player 2



b) *Provide dominant strategy for player 1 and justify you answer*.

The dominant strategy is the strategy that is best regardless of the what the other player does. The dominant strategy for player 1 is B, this is because when player 1 always chooses B regardless of whether player 2 chooses E or D; it will always get a utility of a minimum = 10, whilst, if it chooses C, then it will always get an outcome at a minimum of 0 increasing the chance to get nothing, therefore, B is the ideal decision.

c) *Provide a dominant strategy for player 2 and justify your answer.*

The dominant strategy for player 2 is E, because if player 2 chooses to constantly play E, regardless of the choices player 1 makes, it will always get a minimum of 10. While if it chooses D, regardless of what player 1 chooses to play, it'll get 0 at a minimum making the bar lower, there's a chance it might get 0. Making E the best answer.

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d) *<u>Provide the (pure strategy) Nash Equilibria (if there are any) and justify your answer.</u>*

The justification of the Nash Equilibrium should consider all action profiles and carry out an analysis to identify whether other actions give better output and increase payoff:

- (B, E): When player 1 takes move B, player 2 has no better option that E. Although when player 2 takes move E, it leaves player 1 with no better option than B. This is a payoff dominant Nash Equilibrium.

- (C, E): Player 1 can increase its payoff by choosing action B instead. This action not a Nash Equilibrium

- (B, D): Player 2 can increase its payoff by choosing action B instead. This action not a Nash Equilibrium

- (C, D): Player 2 can increase its payoff by choosing action B instead. This action not a Nash Equilibrium