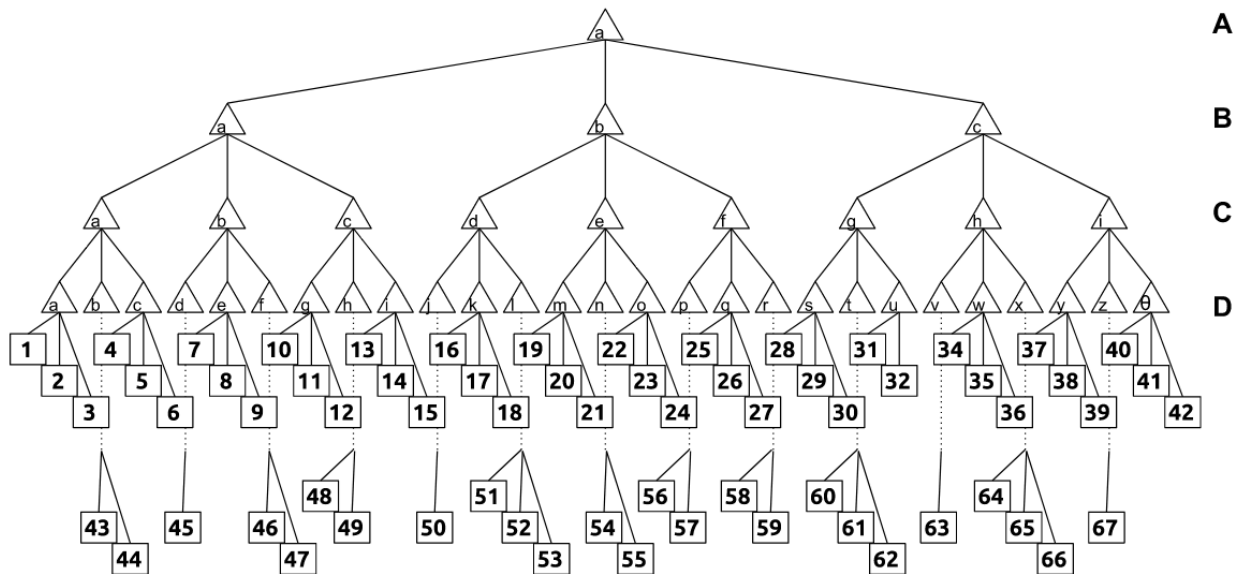Assignment 3 - Adversarial Search

1. Game Tree

(25 pt) Below is a 4 player game tree, with players A, B, C, and D. The utility values for each
player for each leaf node is given in a table on the next page. Solve this game tree using minimax.
Show your work. I recommend giving answers in the chart provided 2 pages down. In a tie, use
the leftmost child.

2. Zero-sum Game Tree

(25 pt) Below is a 2 player zero-sum game tree. Solve the game tree using minimax with alpha
beta pruning. Show your work.

3. Zero-sum Game Tree

(25pt) Below is a 2 player zero-sum game with chance nodes. Solve the game tree using
expectiminimax and no pruning. Show your work

4. Nash Equilibrium

(25pt) Find the Nash Equilibrium(s) of the below normal form games. Show your work

   a. (5 pt)

   b. (5 pt)

c. (5 pt) Hint: If you cannot apply the algorithm, check each state manually for being a Nash Equilibrium

d. (10 pt)