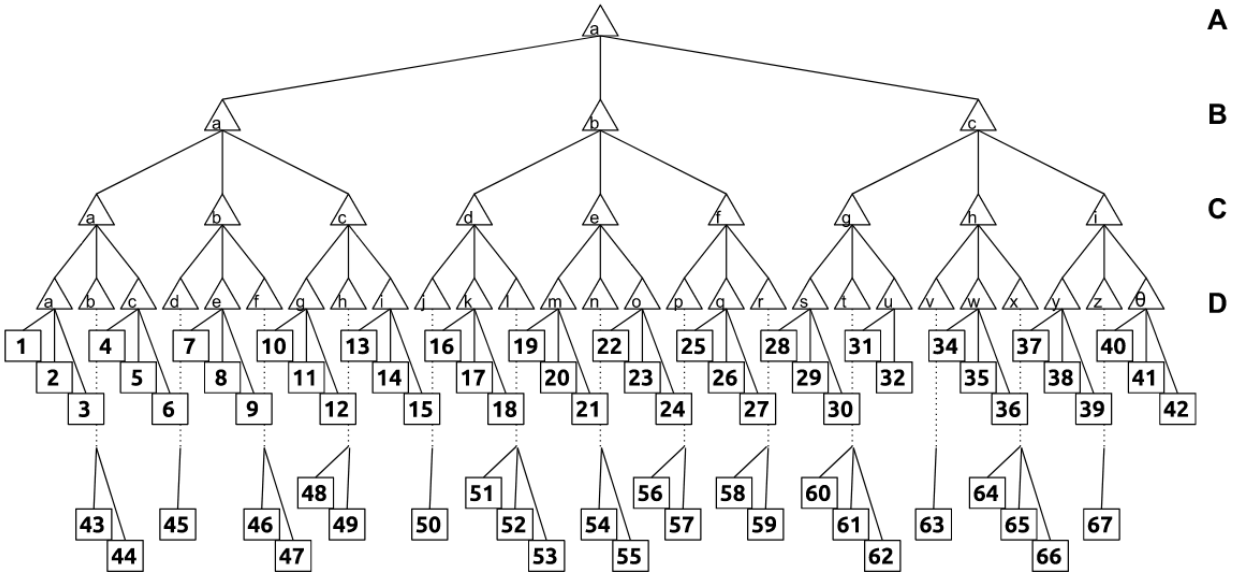
Assignment 3 - Adversarial Search

## 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.




| # | A | B | C | D | # | A | B | C | D | # | A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Table 1: Game Tree Utility Values

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## 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.

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## 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

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## 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)