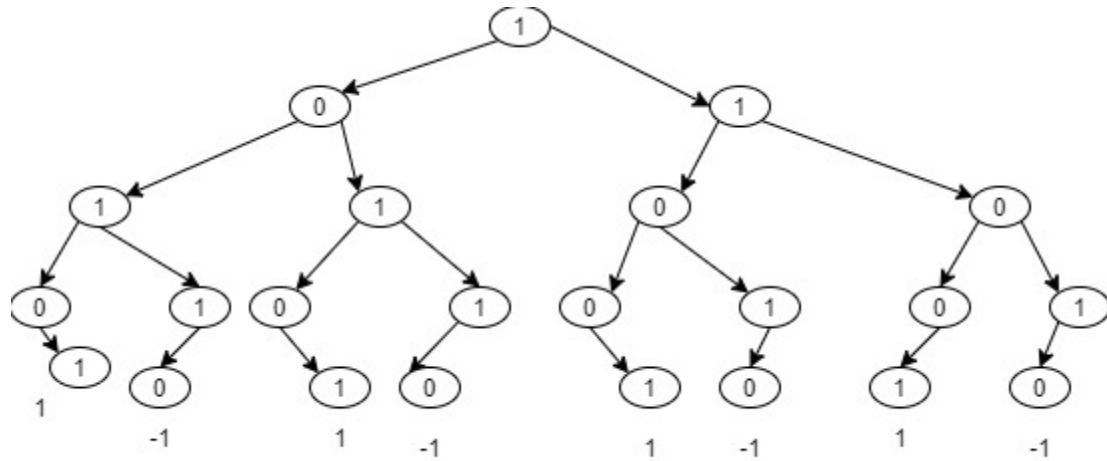


Part A



If there are an odd number of cards, Player A always wins, if there are an even number of cards Player B always wins. This only stands if the string of cards alternates in 10101 as in the example above. Thus for 3 it would be 101 and 4 would be 1010

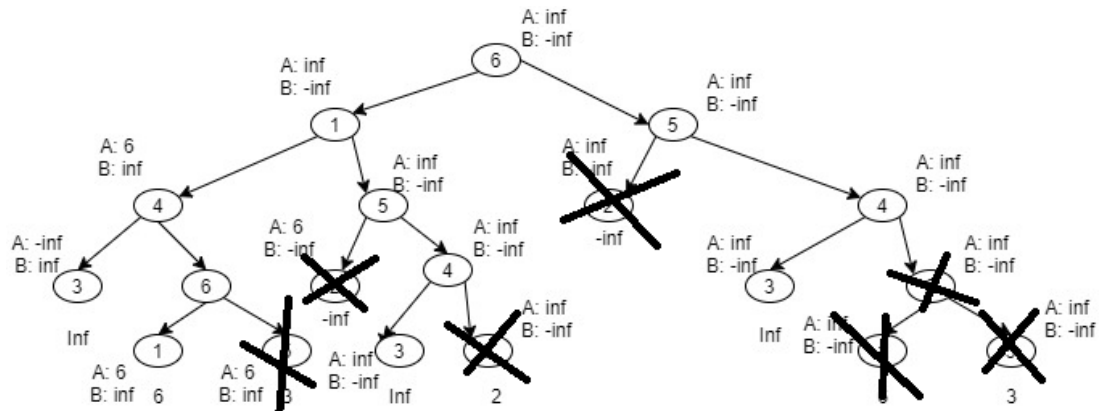
The diagram illustrates a game tree for a 3x3 tic-tac-toe game. The root node is labeled 'Start node' and contains a 3x3 grid with 'X' in (1,1), (1,2), and (1,3), and 'O' in (2,1), (2,2), and (2,3). The tree branches into nodes labeled with player numbers 1 and 0. Nodes are marked with 'X' for player 1 and 'O' for player 0. Some nodes are crossed out with a large 'X'. The tree shows the progression of the game, with the final outcome being a win for player 1 (indicated by a large 'X' on the final node).

Question 3:

A: MinMax = 2 : Optimal Move = 4

B: MinMax = 3 : Optimal Move = 4

C:



D: Stalemate. Both players can keep the game rotation as such

1 -> 4 -> 6 -> 1 -> 5 -> 4 -> 6 -> 1 -> 5 -> 4

Thus the game is endlessly looping after the initial move if both players play optimally