Lab Assignment 3

1.Implement MiniMax Algorithm for recommending next moves in Tic Tac Toe Game

Initialize an Empty board

Get the input Move

Compute heuristic value and declare the winner or tie

Loop

X Turn:

1.   Derive the game tree

2.   Compute the heuristic value at terminal state

3.   Call MiniMax function

4.   Recommend the optimal write position [Eg:1-9]

O Turn

1.   Derive the game tree

2.   Compute the heuristic value at terminal state

3.   Call MiniMax function

4.   Recommend the optimal write position [Eg:1-9]

Check any empty space in the board

Sample Output

```
Starting board
| 1 | 2 | 3 |          | O | X | 3 |          Recommendation: 6
| 4 | 5 | 6 |          | 4 | X | 6 |          Make a move (tile number): 6
| 7 | 8 | 9 |          | 7 | 8 | 9 |          | O | X | 3 |
                                              | X | X | O |
                                              | 7 | O | 9 |
Player X moving (AI) ...   Player O moving (Human) ...
Depth: 1029               Depth: 268
| 1 | 2 | 3 |          Recommendation: 8       Player X moving (AI) ...   Player X moving (AI) ...
| 4 | X | 6 |          Make a move (tile number): 8   Depth: 11              Depth: 1
| 7 | 8 | 9 |          | O | X | 3 |          | O | X | X |          | O | X | X |
                       | 4 | X | 6 |          | X | X | O |          | X | X | O |
                       | 7 | O | 9 |          | 7 | O | 9 |          | O | O | X |
Player O moving (Human) ...
Depth: 1012                                   Player O moving (Human) .   Winner is player: It is a tie!
Recommendation: 1      Player X moving (AI) ...   Depth: 4
Make a move (tile number): 1   Depth: 104   Recommendation: 7
| O | 2 | 3 |          | O | X | 3 |          Make a move (tile number): 7
| 4 | X | 6 |          | X | X | 6 |          | O | X | X |
| 7 | 8 | 9 |          | 7 | O | 9 |          | X | X | O |
                                              | O | O | 9 |
Player X moving (AI) ...   Player O moving (Human) ...
Depth: 702             Depth: 32              Player X moving (AI) ...
```