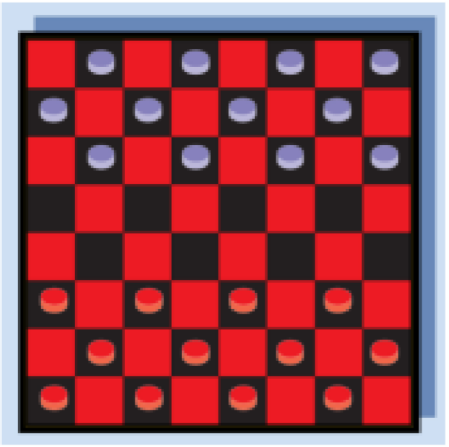
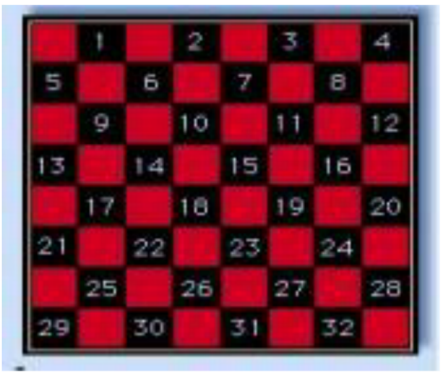
AI-5001 Advance Artificial Intelligence
Assignment – 3
Checker Game

Introduction:
Checkers is played by two persons who oppose each other across a board of 64 light and dark squares, the same as a chessboard. The 24 playing pieces are disk-shaped and of contrasting colours (whatever their colours, they are identified as black and white).



At the start of the game, each contestant has **12 pieces** arranged on the board. While the actual playing is always done on the dark squares, the board is often shown in reverse for clarity. The notation used in describing the game is based on numbering the squares on the board. The black pieces always occupy squares 1 to 12, and the white pieces invariably rest on squares 21 to 32.



Rules:

- The two players alternate turns and can only move their own pieces.
- The dark squares are the only ones that may be occupied on the board. The light squares must
- remain empty.
- Each turn involves the moving of one piece, which can consist of a piece moving forward to a diagonally adjacent square that is unoccupied, or jumping forward over an occupied diagonally adjacent square, provided that the square beyond is also empty.
- If a player jumps over their opponent's piece, they have successfully captured that piece and it is removed from the game.
- Each piece is initially referred to as a man, but if it reaches the furthest side of the board it becomes a king. When this happens, the player stacks an additional piece on top of the original to signify the change.
- Men may only move forward, but kings can move diagonally forwards as well as backwards. Multiple pieces maybe jumped by both men and kings provided that there are successive unoccupied squares beyond each piece that is jumped.
- A win is scored when an opponent's pieces are all captured or blocked so that they cannot move. When neither side can force a victory nor the trend of play becomes repetitious, a draw game is declared.

Problem Statement

In this assignment, you need to make an agent who can play the checker's game. Your main goal is to find the best move in a given checker position.

NOTE: It is compulsory to use the function provided in attached. ipynp file to show the board at any state. You can use any algorithm you have studied in the class.

For more information about the rules, you can visit the website (Draughts.org - The Rules of Draughts).