AI LAB TASK 8

Write code for Min Max Algorithm:

Explanation of the Code:

Game Setup:

The game is played on a 3x3 grid (`board`), with two players: `PLAYER_X` (AI) and `PLAYER_O` (the human player).

The `EMPTY` constant is used to represent an empty spot on the board.

Check Winner Function (`check_winner`):

This function checks if there's a winner by evaluating rows, columns, and diagonals.

It returns the winner (`'X'`, `'O'`, or `'Draw'`) or `None` if the game is still ongoing.

Minimax Function (`minimax`):

This recursive function evaluates all possible game states.

If the current player is maximizing (AI), it tries to maximize the score, and if the opponent is minimizing, it tries to minimize the score.

The base case of recursion is when the game reaches a terminal state (win, lose, or draw).

Finding the Best Move (`find_best_move`):

The AI uses the Minimax algorithm to evaluate each possible move on the board and selects the one with the best score.

Game Loop (`play_game`):

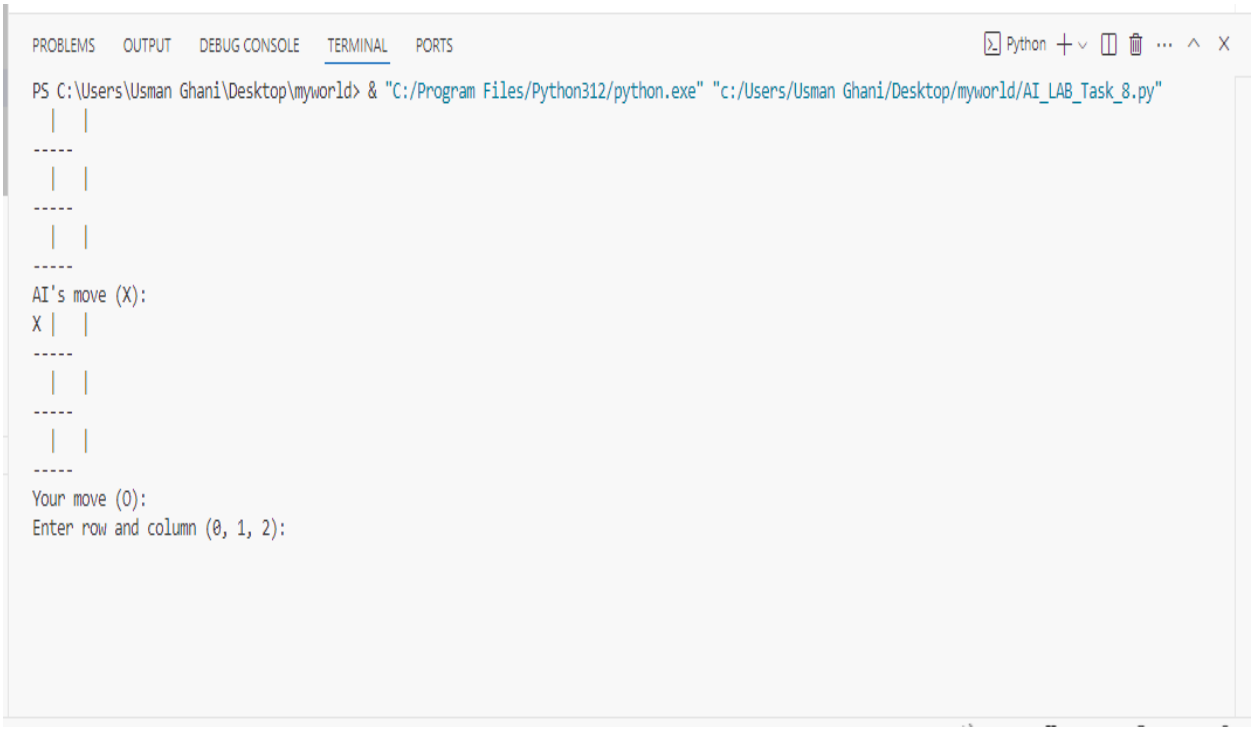
The game alternates between the AI (player X) and the human (player O). The AI moves first.

After each move, the `check_winner` function is called to check if there is a winner or a draw.

Printing the Board (`print_board`):

The board is printed after each move to show the current state of the game.

OUTPUT:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Python
PS C:\Users\Usman Ghani\Desktop\myworld> & "C:/Program Files/Python312/python.exe" "c:/Users/Usman Ghani/Desktop/myworld/AI_LAB_Task_8.py"
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AI's move (X):
X | |

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Your move (O):
Enter row and column (0, 1, 2):