

Objective: The program, named "Royboy Checkers," is a simple implementation of the traditional checkers game for a user to play against an AI opponent. The objective is to capture the opponent's pieces to score points, with the first player to score 5 points winning the game.

Implementation Details:

1. **Board Representation:** The game board is represented as an 8x8 grid using a nested list in Python, where each cell can contain one of three values: 0 for an empty space, 1 for AI's pieces, and 2 for the user's pieces.
2. **Move Validation:** The program validates user and AI moves to ensure they are within the board boundaries, follow the rules of checkers (diagonal movement), and allow for capturing opponent's pieces.
3. **Minimax Algorithm:** The AI opponent uses the minimax algorithm with alpha-beta pruning to search for the best move. It evaluates board positions using a simple scoring function based on the difference between AI's and user's pieces on the board.
4. **Game Loop:** The main game loop alternates between the user and the AI making moves until one player reaches a score of 5 points, indicating a win.
5. **External Sources:** Microsoft Copilot and Chat GPT were used to assist me in building this project