Lab 2

In this assignment, you will write a game-playing agent capable of playing Othello. Please follow the game rules stated at https://en.wikipedia.org/wiki/Reversi.

1. Construct a general alpha-beta game-playing agent which takes the current state as input and returns a move/action to be made by the agent. You may use the code for the AIMA book at https://github.com/aimacode. Please cite the source of your code.
2. Implement an evaluation function that takes the state of the game as an input and returns an evaluation value.
3. Implement a move generator function that takes a state as input and returns a list of legal moves at that state.
4. GUI is not required. You may print the 8x8 board in the console. (You are allowed to use existing GUI implementation available on the internet. Please cite the source.)
5. Your main function should be able to do the following:
    - Take as input a move from the user (e.g. two integers representing the coordinate of the move).
    - Update the board with the user's move.
    - Output the agent's move from the alpha-beta search.
    - Update the board with the agent's move.
    - Repeat the steps until the end of the game – either the board is filled or there is no legal move for any player.
6. Compare the effect of increasing search depth (come up with a method to demonstrate your point).
7. Implement at least two evaluation functions with varying quality. Compare the effect of improving the evaluation function.

What to Turn In

Turn in via Canvas a compressed file (.zip .rar or .tar.gz) containing the following:

- All of your source code.
- A README file explaining how to compile and run the program.
- A short lab report in text/pdf containing the answers for questions 6 and 7.