Grader Description:
This lab is an extension of Othello Lab 6. In Othello Lab 6, if the number of holes was no more than 13, then you could use Alpha Beta to play an optimal move. In this lab, if the number of holes is 14 or more, then run a midgame alpha beta to establish a "best" move.

Because you won't know the exact value of the board when you run a midgame alpha beta, you must estimate it. Do with with some combination of token counts, square valuation, stabiliy, mobility, or other (relatively) easily computable notions. You will have to determine how to combine these. The weighting for the combination could depend on how far into the game one is.

The lab will be graded by playing 100 games and determining the number of tokens for the submitted script vs total tokens.

Eric's Notes:

This lab is both easy and extremely hard. Getting 100% shouldn't be that bad, but there's so much more you can do afterwards.

All the heuristics from quickMove() can be used. The heuristics are used to rate the boards at a certain depth.

You can submit code to the othello.tjhsst.edu website (which I admit I definitely have spent too much time on), and follow instructions there to get your code uploaded. You can test your code against mine, 2024ezeng1(which should be better but it's pretty good).

Almost all good codes use iterative deepening, which is where you increase the depth of midgame alpha-beta until you don't have enough time to compute it.

Mostly, heuristics can be generalized to stability of the centerpieces, edge play, and mobility.

Find papers to help you out, or literally just google othello strategies. Here are some names of historic othello engines: IAGO, BILL, WZebra, Logistello.

Perhaps you’ll feel compelled enough to beat my code.

Hope you enjoyed the unit!

(the next labs are free this is basically the last one)