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CS 482

Report

For project 1, there was a clear problem set, and a complicated method of solving it. The main issue was to figure out the recursive element of the minimax algorithm, and effectively use it to help the computer find the best move in tic tac toe. I started this project in C++ with the provided code and immediately ran into many issues with the method that I attempted. I tried a head on approach to solving the minimax issue, and after five hours of compilation errors and debugging, I finally got it to work, but ineffectively. The resulting solution gave me incorrect answers on several solution sets, so I decided to restart completely with python. The python conversion was more difficult than I thought, and took my over twelve hours to actually get working slightly effectively. After several more tries, I finally figured it all out. My program uses a main function that effectively works the same as one would in a C++ file. Taking in the file input and outputting was the simple part, as the minimax proved trouble for me. Since my gameboard variable was global, and I had built my project around it, I had to constantly reset it to print my final gameboard and not infinitely attempt to solve the problem recursively. The minimax function takes the winning scores and adds them to a score array, which stores the correct move and ranks it by the score. The smallest score for the player character, and the largest score for the AI is then taken and used to find the best move. The best move is then passed through recursively until the game is complete, then compared to all of the other best moves. Only then, is the final move calculated.