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Program 7 Writeup--Gomoku Game

Our program is a Gomoku chess game. Players or computer can win the game by placing five chess in a row. It allows player to choose from 3 modes: play with another player, with normal AI or with smart AI.

For object-oriented, we built an AI abstract class, which is extended by both smart AI and the normal AI. Also, we built a Chess class which extends the JButton class in order to access the features of JButton and build new feature of chess buttons. We used 2-D Arrays to represent and save the chessboard as well as the chess buttons. It is convenient to use this because there is a fixed length of the list, and we can access the index (location of the chessboard) more directly. The GomokuCore class control the program by calling the AI or getting data from user's input, and changing the data in the array, and check if this change caused any wins. Then the Draw class which is the user interface gets user's input and displays these changes made by GomokuCore on a visual chessboard. Users can place chess by clicking the position they want to place on the chessboard, and AI will place the chess automatically after user's turn.

We also built file I/O to allow users to save current game and continue previous game. We can store and read the information using GomokuIO class and save a file in current directory.

The experience of building this program was interesting, especially when we were building the AI and the user interface. We learned a lot of new things and got more familiar with object oriented and more complex language environment.