

COMP10050 - Assignment 2

The aim of this project was to construct a 2-player board game representation of Focus/Domination. The project files given to me were expanded upon to include the functionalities of initializing the players and implementing the turns. The winning conditions and the victory functionalities were also added at the end, closer to the deadline of the assignment.

The first thing that I implemented were the players. A player struct was created and it included the player name, colour, the pieces reserved by the player and the ones captured. This struct was initialised for two players and a `for()` loop was used for this. There was also a change made in the stack size display for the board. The board would not show the stack size on each square and so it was added as a functionality in `input_output.c`.

The turns were implemented and in order to do this, I had to make two functions: One to merge two stacks together in two squares and the other to remove the pieces from the bottom of the stack if the stack size exceeded 5. Co-ordinates were used to get the position, of the stack the user wants to move, and to get the position of the square they want to move the stack to. Then the two functions are called accordingly to add and/or remove pieces from the merged stack.

Finally, the `winCondition()` function and the `movement()` function were implemented. The `movement` function returns true if the player can move and returns false if the player cannot move. The `winCondition()` function calls the `movement()` function and the player who cannot move is the loser, so the function returns the other player. If there is no winner yet, then the function returns an empty player struct with the color `WHITE` and the game continues until it returns a player struct with a color that is not `WHITE`.