CS 161
5/29/2018
Elizabeth Graalum, John Waczak, Benjamin Lemoine,
Joshua Schliecher, Katelynn Thorn

Assignment 4: Group Part

Which program did your group decide on?

Our group decided to use Katelynn Thorn's program.

What advantages do you think that program has over the others?

Katelynn's code has the advantage that it works. John's code had a bug that made it possible to swap a player's piece with an opponent's after all of the pieces were on the board. This means that is was able to violate the moving diagonally/orthogonally requirement. Joshua and Elizabeth's programs, on the other hand, worked perfectly well except that their function for checking whether or not a swap was valid forced players to pick a new place to put the piece instead of picking a new piece to move entirely. This means that if a player chooses to move a piece that is surrounded the program becomes stuck (see the following picture).

Another possible advantage is that because Katelynn's code is not abstracted into classes, her entire program fits into one .cpp file. For a simple game such as this, keeping everything in the same place could be better because in total there are fewer than 500 lines. Creating more files just adds steps to the compilation process and it really isn't that hard to search through a single file that small.

What improvements do you think could be made to that program?

        Katelynn's code could be improved by splitting it apart into classes to make it easier to follow. Splitting the code into classes would also organize the program better, simplifying the main function. Another improvement would be to simplify the game over function, instead of having an unnecessary amount of if-statements. It should be possible to loop through the elements of the board array in one go and test whether or not the game is over. Other functions could have also been made throughout the program, such as one for the player's turn, to make the code better and more organized.

        Although not required, it would be nice to make it possible to allow players to choose a different piece to move once they have selected one (after all of the player's pieces are on the board). It is easy to choose a piece to move and then realize that there might be a better play to make before completing your turn. This would also solve the problem other people's code had because if you can choose to move a different piece it wouldn't matter if you chose a piece that is locked in by other pieces.