**Project Tests**

**Test 1 - Settings (graphical)**

1) Enter the setting menu. Change resolution, windowed mode and apply the settings.

2) Confirm the correct change of resolution and window mode.

**Test 2 - Setting (in-game visuals)**

1) Enter the setting menu. Change square bright and dark square colors, change the 'flip after a move' setting and apply the settings.

2) Start a new game of player vs. player.

3) Confirm the correct change of colors for both sides and the change in the flip setting, after making a move (when the setting is 'On', game board should flip after each move).

**Test 3 - Settings saving only after an apply**

1) Enter the setting menu. Change any settings.

2) Go back to the menu without applying the settings.

3) Enter the settings menu again, confirm that settings weren't changed.

4) Change any settings and apply them.

5) Enter the settings menu again and confirm changes in applied settings.

**Test 4 - Game options saving after a game**

1) Enter the game options menu, make a change to a few options (any options).

2) Start a new game, then forfeit the game.

3) Go back to game options menu. Confirm that the game options were saved from the last change.

**Test 5 - Game options saving after re-launch**

1) Enter the game options menu, make a change to a few options (any options).

2) Close the game.

3) Launch the game again. Confirm that the game options were saved.

**Test 6 - Game options input checks**

1) Enter the game options menu. Try to change clock time and increment time options to negative values.

2) Confirm that the negative inputs were not applied.

**Test 7 - Changes when playing with no time limit**

1) Enter the game options menu. Change the clock time setting to 'No limit'.

2) Confirm that time increment option was hidden after the change in setting.

3) Launch a game. Confirm that both clocks are not shown in game.

**Test 8 - Losing when time runs out**

1) Enter the game options. Select a time limit for the game.

2) Start a new game. Don't make any moves.

3) Confirm that you lose the game, after your time ran out.

**Test 9 - Illegal moves**

1) Start a new game.

2) Try to make illegal moves (such as pawn moving diagonally without capture or any bishop moving over squares occupied by pieces). Also try to move out of board's bounds.

3) Confirm that the illegal moves didn't register, and that the selection highlight is gone after each illegal move attempt.

**Test 10 - Check**

1) Start a new game.

2) Put the king under a check[1].

3.1) When under a check, confirm that the only moves possible, are the ones which will put your king out of check.

3.2) Try to make a move that would expose your king to a check. Confirm that this move isn't possible.

*(Steps 3.X can be tested in any order or in different games).*

**Test 11 - Checkmate**

1) Start a new game.

2) Put the enemy king under a checkmate[2] (king under check, with no moves to get him out of a check).

3) Confirm that the game immediately ends with you winning.

**Test 12 - Castling**

1) Start a new game.

2.1) Try to castle[3] with king being under check. Confirm that this move isn't possible.

2.2) Try to castle with any piece being between the king and the rook. Confirm this move aren't possible.

2.3) Try to castle after moving either the king or the castling rook. Confirm this move isn't possible.

2.4) Try to castle with only the rook being threatened. Confirm this move is possible.

*(Steps 2.X can be tested in any order or in different games).*

**Test 13 - Pawn moves**

1) Start a new game.

2.1) At the start, try to move any pawn by two squares forward. Confirm this move is possible.

2.2) Try to move a pawn that has already moved, by two squares forward. Confirm this move isn't possible.

2.3) Move another piece to a square forward to an un-moved pawn. Next turn, try to move the pawn by two squares forward. Confirm this move isn't possible.

*(Steps 2.X can be tested in any order or in different games).*

**Test 14 - En passant**

1) Start a new game.

2.1) After the enemy has moved his pawn by one square, to a square which is right/left from your pawn, try to do the en-passant[4] move. Confirm this move is possible.

2.2) Try to do step 2.1, but with enemy moving his pawn only by one square. Confirm that the en-passant move is not possible.

*(Steps 2.X can be tested in any order or in different games).*

**Test 15 - Playing after game ends**

1) Start a new game.

2) After the game ends, try to make any move.

3) Confirm that no new highlights or moves happened after the game has ended.

**Terms**

[1] - A condition that occurs when there is a possibility of another piece, moving to enemy's king square, next turn. The player with a king under a check, must get out of a check in his turn.

[2] - King being under check, with no moves to get him out of a check.

[3] - A special move made by the king and the rook, the king moves two square to the rook, the rook moves to the adjacent square on the other side of the king.

Can only be done if the rook in question and the king haven't moved. Another requirement, is to have no other pieces between them, and king or any other square between, not being threatened by the enemy.

[4] - A special move made by the pawn. The move can be done only if enemy's pawn has moved 2 squares and to the side of the pawn. The pawn moves diagonally behind the moved enemy's pawn, and captures it.