

CookieByte Testing Document

Board Class:

- RemovePiece Test –
 - We test that the board class could remove any given piece if give a certain coordinate location.
 - This test only passes if the there is a valid piece on a given space. Empty spaces with no pieces were assert to false.
- GetSpace Test –
 - Tested that we could return a designated space given a coordinate location at the board level.
- GetPiece Test –
 - Tested that we could return a designated Piece given a coordinate location at the board level.

Space Class:

- SpacelsEmpty Test-
 - Tests the logic in isEmpty in the space class. If the Space has a piece on it the function returns false otherwise it returns true.

User Class:

- Invites Test –
 - Tested that one user can properly send an invitation to another specified user. Checks if the denied invitation has been properly disposed of and if a pending invite can be seen.
 - Tests how the system handles and registers a game depending on the user's invitation response.
- Equals Test -
 - Tests how to compare one User to another. There are 3 cases if the 2 given users are the same, different, or one is null.
- WinPercentage Test –
 - Checks to make sure that the user profile can properly self-calculate its winning record based on past games that have been played.

Game Class:

- kingWinConditions Test –
 - Creates fake king and game to place in different areas of the default board. If the king is in one of the four corners of the board it asserts true otherwise it asserts false.
 - Checks to make sure other attributes of the game have been properly set when the King winning conditions are met.
- attackWinConditions Test-
 - Creates a king that is surrounded by 4 opponent pieces and checks if the correlating win conditions and attributes of the game are set.
 - Changes one piece to be on the King's side and expect win condition to fail and it also checks if the king is just surrounded by empty space.
 - Makes sure that if the king is not in a corner but is on the edge it cannot be captured.

Move Class:

- isMoveValid Test -
 - Checks if a given move only moves the piece in a straight line horizontally and vertically. Pieces should be able to move in both a negative and positive direction.
 - Checks if a piece tries to move out of range of the board or if there is another piece in the way.
 - Checks if the piece moving to a corner is not a king or not and only gives kings the ability to occupy that position.
- CapturePiece Test-
 - Checks all 8 conditions where a piece can get captured by just one piece if it's sandwiched next to one of the four corners.
 - Checks that if the piece is on the edge it can't be captured and checks all out of bound errors.
 - Makes sure that all pieces except the King can be captured by being sandwiched horizontally or vertically given the coordinate location of the sandwiched piece.

- movePiece Test-
 - Given a to and from location this tests a valid move made by user and checks to make sure that attributes and state of the game/board are properly set.
 - Checks to make sure after every move that is made that the current Turn is switched to the opposite player. The test checks movement based on who's turn it is.