# Grid Unit Testing Plan

* constructBoard
  + verify creation (check not null)
* getAllPieces
  + verify creation of piece array
  + verify validity of pieces within array
* movePiece
  + verify that a piece does move when a move is valid
    - verify correct row when moved
    - verify correct index when moved
    - verify previous location is now empty
* getPiece
  + verify null return on out of bounds or empty places
* setPiece
  + verify a piece set out of bounds is not set within the board
  + verify a piece set is not somehow changed when gotten
* getPossibleMoves
  + not easily verifiable through test cases, independent testing may be required and implemented
* isValidMove
  + verify any move retrieved by getPossibleMoves is a valid move
  + verify a move not retrieved by getPossibleMoves is an invalid move
  + verify that moving to a location where a piece already exists is invalid

# Testing Implementation

Unit testing is done via JUnit 4 with multiple test cases and implemented through a testing suite.

* Test Case 1: Board creation
* Test Case 2: Getting a piece from an out of bounds location or empty location
* Test Case 3: Setting and getting a piece and setting a piece out of bounds
* Test Case 4: Setting two pieces in the same location
* Test Case 5: Testing valid moves via getPossibleMoves, testing invalid moves, and testing the validity of moving on an occupied area
* Test Case 6: Testing the creation of getAllPieces and validity of Pieces retrieved
* Test Case 7: Testing moving a piece from one location to another

# Test Results

Test run by TestRunner.java on JunitTestSuite.java

Time taken to execute test suite: [0.006] seconds

Number of tests executed: 7

Number of tests failed: 0

Number of tests ignored: 0

Tests executed successfully!