CheckerBoard(void) – [test\_CheckerBoard\_Constructor]

| Input: N/A  State: N/A | Output: N/A  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

whatsAtPos(BoardPosition pos) – [test\_whatsAtPos\_MinRowMinCol]

| Input: (0,0)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: x  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

whatsAtPos(BoardPosition pos) – [test\_whatsAtPos\_MaxRowMaxCol]

| Input: (7, 7)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: o  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

whatsAtPos(BoardPosition pos) – [test\_whatsAtPos\_MidRowMidCol]

| Input: (2, 4)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: x  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

whatsAtPos(BoardPosition pos) – [test\_whatsAtPos\_BlackTile]

| Input: (0, 1)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: \*  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

whatsAtPos(BoardPosition pos) – [test\_whatsAtPos\_EmptyTile

| Input: (4, 0)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: “ ”  (empty space)  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

placePiece(BoardPosition pos, char player) – [test\_placePiece\_EmptyTile\_playerX]

| Input:  pos = (3, 3)  player = “x”  State:  pieceCount:  x = 12  o = 12  viableDIrections:  x = [SE, SW]  o = [NE, NW]     | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  pieceCount:  x = 13  o = 12  viableDIrections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* | x | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

placePiece(BoardPosition pos, char player) – [test\_placePiece\_cornerTile\_replaceO\_withX]

| Input:  pos = (7, 7)  player = “o”  State:  pieceCount:  x = 12  o = 12  viableDirections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  pieceCount:  x = 13  o = 11  viableDirections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | x | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

placePiece(BoardPosition pos, char player) – [test\_placePiece\_WhiteTile]

| Input:  pos = (3,0)  player = “x”  State:  pieceCount:  x = 12  o = 12  viableDirections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  pieceCount:  x = 13  o = 12  viableDirections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | x |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

placePiece(BoardPosition pos, char player) – [test\_placePiece\_middleTile\_replaceX\_withO]

| Input:  pos = (2,4)  player = “o”  State:  pieceCount:  x = 12  o = 12  viableDIrections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  pieceCount:  x = 11  o = 13  viableDIrections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | o | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

placePiece(BoardPosition pos, char player) – [test\_placePiece\_CornerTile\_replacex\_withX]

| Input:  pos = (0, 0)  player = “X”  State:  pieceCount:  x = 12  o = 12  viableDIrections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  pieceCount:  x = 12  o = 12  viableDirections:  x = [SE, SW]  o = [NE, NW]   | X | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

getPieceCounts(void) – [test\_getPieceCounts\_x12\_o12]

| Input: N/A  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output:  x: 12  o: 12  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

getViableDirections(void) – [test\_getViableDirections\_8x8board]

| Input: N/A  State:  pieceCount:  x = 12  o = 12  viableDirections:  x = [SE, SW]  o = [NE, NW]   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output:  HashMap<Character, ArrayList<DirectionEnum>>  ViableDirections: x = [SE, SW], o = [NE, NW]  State:  State of the pieceCount is unchanged  State of the board in unchanged  State of the HashMap is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

checkPlayerWin(Character player) – [test\_checkPlayerWin\_no\_opponent\_pieces\_left]

| Input: x  State:  pieceCount:  x: 12  o: 0  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output: True  State: State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

checkPlayerWin(Character player) – [test\_checkPlayerWin\_opponent\_pieces\_exist]

| Input: x  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: False  State: State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

crownPiece(BoardPosition posOfPlayer) – [test\_crownPiece\_playerx\_on\_opposing\_side]

| Input: (7,1)  State:  pieceCount:  x: 12  o: 10  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* |  | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* | o | \* | o | \* | | \* |  | \* | o | \* | o | \* | o | |  | \* |  | \* | o | \* | o | \* | | \* | x | \* | o | \* | o | \* | o | | Output: posOfPlayer = [X]  State:  pieceCount:  x: 12  o: 10  viableDirections:  x: [SE, SW, NE, NW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* |  | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* | o | \* | o | \* | | \* |  | \* | o | \* | o | \* | o | |  | \* |  | \* | o | \* | o | \* | | \* | X | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

crownPiece(BoardPosition posOfPlayer) – [test\_crownPiece\_playerx\_on\_player\_side]

| Input: (0,0)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

crownPiece(BoardPosition posOfPlayer) – [test\_crownPiece\_playerx\_already\_crowned]

| Input: (4,0)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW, NE, NW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | |  | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | | X | \* |  | \* |  | \* | o | \* | | \* | o | \* | o | \* | o | \* |  | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State: State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

movePiece(BoardPosition startingPos, DirectionEnum dir) – [test\_movePiece\_in\_empty\_spot]

| Input: ((2,0), SE)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: BoardPosition object = (3,1)  State:  startingPos = null  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | |  | \* | x | \* | x | \* | x | \* | | \* | x | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

movePiece(BoardPosition startingPos, DirectionEnum dir) – [test\_movePiece\_in\_occupied\_spot]

| Input: ((3,1), SW)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | |  | \* | x | \* | x | \* | x | \* | | \* | x | \* |  | \* |  | \* |  | | o | \* |  | \* |  | \* |  | \* | | \* |  | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

movePiece(BoardPosition startingPos, DirectionEnum dir) – [test\_movePiece\_SW\_out\_of\_bounds]

| Input: ((2,0), SW)  State:  pieceCount:  x: 12  o: 12  viableDirections:  x: [SE, SW]  o: [NE, NW]  board:   | x | \* | x | \* | x | \* | x | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | x | \* | x | \* | x | \* | x | | x | \* | x | \* | x | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* | o | \* | o | \* | o | \* | o | | o | \* | o | \* | o | \* | o | \* | | \* | o | \* | o | \* | o | \* | o | | Output: N/A  State:  State of the object is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

jumpPiece(BoardPosition startingPos, DirectionEnum dir) – [test\_jumpPiece\_SEjump]

| Input:  startingPos = new BoardPosition(4,4)  dir = DirectionEnum.SE  State:  viableDirections:  x: [SE, SW]  o: [NE, NW]  x is at (5,5)  0 is at (6,4)  pieceCount  x: 1  o: 1  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* | o | \* |  | |  | \* |  | \* | x | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output:  x jumps over to (2,6)  o is removed  True  State:  viableDirections:  x: [SE, SW]  o: [NE, NW]  pieceCount  x: 1  o: 0  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* | x | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

jumpPiece(BoardPosition startingPos, DirectionEnum dir) – [test\_jumpPiece\_SWjump]

| Input:  startingPos = new BoardPosition(2,2)  dir = DirectionEnum.SW  State:  viableDirections:  x: [SE, SW]  o: [NE, NW]  pieceCount  x: 1  o: 1  x is at (2,2)  o is at (3,1)  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* | x | \* |  | \* |  | \* | | \* | o | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output:  x jumps over to (4,0)  o is removed  True  State:  viableDirections:  x: [SE, SW]  o: [NE, NW]  pieceCount  x: 1  o: 0  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | x | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

jumpPiece(BoardPosition startingPos, DirectionEnum dir) – [test\_jumpPiece\_invalidMove\_noPieceToJump]

| Input:  startingPos = new BoardPosition(3,3)  dir = DirectionEnum.SE  State:  viableDirections:  x: [SE, SW]  o: [NE, NW]  pieceCount  x: 1  o: 1  x is at (3,3)  no piece to jump in SE direction  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* | x | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output:  no move is made  error and asked to retry  State:  viableDirections:  x: [SE, SW]  o: [NE, NW]  pieceCount  x: 1  o: 1  State of the board is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

scanSurroundingPositions(BoardPosition startingPos) – [test\_scanSurroundingPositions\_validMoves]

| Input: startingPos = new BoardPosition(3,3)  State:  x at (2,2)  o (1,1)  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* | o | \* |  | \* |  | \* |  | |  | \* | x | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output:  (0,0) “ “  (2,0) “ “  (0,2) “ “  can move NW, SE  State:  State of the board is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

scanSurroundingPositions(BoardPosition startingPos) – [test\_scanSurroundingPositions\_oSurroundings]

| Input: startingPos = new BoardPosition(4,4)  State:  pieceCount:  x: 3  o: 1  viableDirections  x: [SE,SW]  o: [NE, NW]  board:   |  | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* | x | \* | x | \* |  | |  | \* |  | \* | o | \* |  | \* | | \* |  | \* | x | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output:  (3,3)  (5,3)  (3,5)  (5,5) “ “  can move NW, SE  State:  State of the board is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

scanSurroundingPositions(BoardPosition startingPos) – [test\_scanSurroundingPositions\_noValidMove]

| Input: startingPos = new BoardPosition(0,0)  State:  pieceCount:  x: 1  o: 0  viableDirections  x: [SE,SW]  o: [NE, NW]  board:   | x | \* |  | \* |  | \* |  | \* | | --- | --- | --- | --- | --- | --- | --- | --- | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | |  | \* |  | \* |  | \* |  | \* | | \* |  | \* |  | \* |  | \* |  | | Output:  (1,1) “ “  (0,3) “ “  (2,0) “ “  no valid move directions  State:  State of the board is unchanged |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

getDirection(DirectionEnum dir) – [test\_getDirection\_invalidDirection]

| Input:  dir = DirectionEnum.NE  State:  State of the board doesn’t affect the function | Output:  direction: (-1,1)  State:  State of the object is unchanged |
| --- | --- |

What tests did each team member write? Just tell me the names of the functions (unless for some reason multiple team members wrote functions for the same method. In that case, tell me which tests specifically by giving me the test names)

| Laura | CheckerBoard(int)  whatsAtPos(BoardPosition)  getPieceCounts(void) |
| --- | --- |
| Nadia | checkPlayerWin(Character)  crownPiece(BoardPosition)  movePiece(BoardPosition, DirectionEnum) |
| Keerthi | jumpPiece(BoardPosition, DirectionEnum)  scanSurroundingPositions(BoardPosition)  getDirection(DirectionEnum) |
| Meher | placePiece(BoardPosition, char)  getViableDirections(void) |