

## Assignment Eleven – Expected Program Behavior for Running the Sudoku TreeSet

### *Testing Expected Behaviors:*

run:

Welcome to the Sudoku Solution Helper Program 1.0!

Sudoku Solution Helper Main Menu:

- ```
-----
1. Display Puzzle
2. Display Remaining Moves For A Cell
3. Generate Solution Help
4. Load Puzzle
5. Test Sudoku Board and Solution Helper
6. Run Playground
7. Quit Program
-----
```

Enter menu selection (1 - 7): 5

-- Testing Invalid Boards --

java.lang.IllegalArgumentException: SudokuBoard: Board size 7 is not a perfect square number!

Correct: Board size is not a perfect square

Correct: puzzleInvalidSize.txt Board Not Loaded

java.lang.NumberFormatException: SudokuBoard: Board cell (3, 3) value of "B" is not an integer!

Correct: Value is not an integer

Correct: puzzleInvalidCell.txt Board Not Loaded

-- Testing Valid Board Loading --

```
      0   1   2   3
-----
0 |  2   4   1   3
1 |  1   0   2   4
2 |  3   2   4   1
3 |  4   1   3   0
```

-- Testing Get Cell Method --

java.lang.IndexOutOfBoundsException: SudokuBoard.getCell: Row -1 is out of bounds!

Correct: Row index -1 was out of bounds

java.lang.IndexOutOfBoundsException: SudokuBoard.getCell: Column -1 is out of bounds!  
Correct: Column index -1 was out of bounds

java.lang.IndexOutOfBoundsException: SudokuBoard.getCell: Row 4 is out of bounds!  
Correct: Row index 4 was out of bounds

java.lang.IndexOutOfBoundsException: SudokuBoard.getCell: Column 4 is out of bounds!  
Correct: Column index 4 was out of bounds

Retrieved value of 2 equals 2: true

-- Testing Set Cell Method --

java.lang.IndexOutOfBoundsException: SudokuBoard.setCell: Row -1 is out of bounds!  
Correct: Row index -1 was out of bounds

java.lang.IndexOutOfBoundsException: SudokuBoard.setCell: Column -1 is out of bounds!  
Correct: Column index -1 was out of bounds

java.lang.IndexOutOfBoundsException: SudokuBoard.setCell: Row 4 is out of bounds!  
Correct: Row index 4 was out of bounds

java.lang.IndexOutOfBoundsException: SudokuBoard.setCell: Column 4 is out of bounds!  
Correct: Column index 4 was out of bounds

java.lang.IllegalArgumentException: SudokuBoard.setCell: Cell value is null!  
Correct: Null value in invalid

Retrieved value of 100 equals 100: true

-- Testing Solution Helper Methods --

Master Set Values: [1, 2, 3, 4]

Row Filled Values: [1, 2, 3, 4]

Col Filled Values: [1, 2, 3, 4]

Grid Filled Values: [1, 2, 4]

Filled moves at (0, 0): [1, 2, 3, 4]

Remaining moves for Row 0: []

```
Remaining moves for Col 0: []
Remaining moves for Mini-Grid(0,0): [3]
Remaining moves at cell (0, 0): []
```

```
-- Testing Board Solved Method --
```

|   | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| 0 | 2 | 4 | 1 | 3 |
| 1 | 1 | 0 | 2 | 4 |
| 2 | 3 | 2 | 4 | 1 |
| 3 | 4 | 1 | 3 | 0 |

```
Puzzle Finished: false
```

|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 4 | 2 | 9 | 7 | 3 | 6 | 8 | 5 |
| 1 | 6 | 3 | 7 | 5 | 2 | 8 | 4 | 9 | 1 |
| 2 | 5 | 8 | 9 | 6 | 1 | 4 | 3 | 7 | 2 |
| 3 | 4 | 6 | 3 | 2 | 5 | 7 | 9 | 1 | 8 |
| 4 | 2 | 9 | 8 | 3 | 6 | 1 | 7 | 5 | 4 |
| 5 | 7 | 5 | 1 | 4 | 8 | 9 | 2 | 6 | 3 |
| 6 | 3 | 7 | 4 | 8 | 9 | 5 | 1 | 2 | 6 |
| 7 | 9 | 2 | 5 | 1 | 3 | 6 | 8 | 4 | 7 |
| 8 | 8 | 1 | 6 | 7 | 4 | 2 | 5 | 3 | 9 |

```
Puzzle Finished: true
```

```
Sudoku Solution Helper Main Menu:
```

- ```
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```

```
Enter menu selection (1 - 7): 7
```

```
Thanks for using the Sudoku Solution Helper Program 1.0!
```