

## SOFE 2720U Final Project Test Document

### User Story

As a user, I want to be able to see the solution for the Sudoku board so that I know the board is solvable.

### Acceptance Cases

Case ID	Test Description	Acceptance Case	Result
1	The dimensions of the generated board must fit under the rules of Sudoku	- Board is 9x9 in size	[4, 8, 1, 7, 2, 9, 5, 6, 3, ] [7, 5, 3, 1, 8, 6, 4, 9, 2, ] [6, 9, 2, 4, 3, 5, 1, 7, 8, ] [2, 6, 4, 8, 1, 3, 7, 5, 9, ] [1, 3, 8, 5, 9, 7, 2, 4, 6, ] [5, 7, 9, 2, 6, 4, 3, 8, 1, ] [9, 4, 6, 3, 5, 1, 8, 2, 7, ] [3, 2, 7, 9, 4, 8, 6, 1, 5, ] [8, 1, 5, 6, 7, 2, 9, 3, 4, ]
2	Each row and column in the generated solution must follow the winning conditions under the rules of Sudoku	- Sum of each individual row is 45 - Sum of each individual column is 45 - Each row uses the numbers 1-9 once each - Each column uses the numbers 1-9 once each	[7, 9, 5, 2, 3, 1, 6, 4, 8, ] [4, 6, 2, 7, 8, 5, 3, 9, 1, ] [1, 8, 3, 9, 6, 4, 2, 7, 5, ] [5, 2, 8, 1, 7, 3, 9, 6, 4, ] [6, 1, 7, 5, 4, 9, 8, 2, 3, ] [9, 3, 4, 6, 2, 8, 1, 5, 7, ] [2, 4, 6, 8, 1, 7, 5, 3, 9, ] [3, 5, 1, 4, 9, 6, 7, 8, 2, ] [8, 7, 9, 3, 5, 2, 4, 1, 6, ]
3	Each quadrant of the generated solution must follow the winning conditions under the rules of Sudoku	- Sum of each 3x3 quadrant is 45 - Each 3x3 quadrant uses the numbers 1-9 once each	[6, 3, 4, 5, 7, 2, 1, 8, 9, ] [2, 7, 8, 1, 3, 9, 4, 6, 5, ] [5, 1, 9, 4, 8, 6, 7, 2, 3, ] [4, 9, 5, 2, 1, 7, 8, 3, 6, ] [8, 2, 1, 6, 9, 3, 5, 7, 4, ] [7, 6, 3, 8, 5, 4, 9, 1, 2, ] [3, 5, 7, 9, 2, 8, 6, 4, 1, ] [9, 4, 2, 7, 6, 1, 3, 5, 8, ] [1, 8, 6, 3, 4, 5, 2, 9, 7, ]  [6, 3, 4,   5, 7, 2,   1, 8, 9, ] [2, 7, 8,   1, 3, 9,   4, 6, 5, ] [5, 1, 9,   4, 8, 6,   7, 2, 3, ]  [4, 9, 5,   2, 1, 7,   8, 3, 6, ] [8, 2, 1,   6, 9, 3,   5, 7, 4, ] [7, 6, 3,   8, 5, 4,   9, 1, 2, ]  [3, 5, 7,   9, 2, 8,   6, 4, 1, ] [9, 4, 2,   7, 6, 1,   3, 5, 8, ] [1, 8, 6,   3, 4, 5,   2, 9, 7, ]

4	Each value in the Sudoku board must be a legitimate value under the rules of Sudoku	- Each integer in the generated board must be between 1-9 inclusive	<pre>[3, 5, 4, 1, 8, 2, 9, 6, 7, ] [7, 9, 2, 5, 3, 6, 8, 1, 4, ] [6, 1, 8, 7, 9, 4, 3, 2, 5, ] [1, 6, 7, 9, 2, 8, 4, 5, 3, ] [9, 2, 3, 4, 6, 5, 1, 7, 8, ] [4, 8, 5, 3, 7, 1, 2, 9, 6, ] [5, 7, 9, 2, 4, 3, 6, 8, 1, ] [2, 4, 6, 8, 1, 7, 5, 3, 9, ] [8, 3, 1, 6, 5, 9, 7, 4, 2, ]</pre>
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