

Sudoku

Directions: Create a program that checks a 9x9 table of numbers (two-dimensional array), to see if it is a solution to the game Sudoku. In order for the table to be a solution, each row must contain the numbers 1-9, each column must contain the numbers 1-9, and there are also nine 3x3 squares that must contain the numbers 1-9.

The program should ultimately end by saying, “You have found a Sudoku solution” or “These numbers do not represent a Sudoku solution”.

Use the Two Dimensional Arrays below to test your program:

```
// Use to check Rows
int[][] array = {{ 1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9},
                 {1, 2, 3, 4, 5, 6, 7, 8, 9}};

// Use to check Columns
int[][] array2 = {{1, 1, 1, 1, 1, 1, 1, 1, 1},
                  {2, 2, 2, 2, 2, 2, 2, 2, 2},
                  {3, 3, 3, 3, 3, 3, 3, 3, 3},
                  {4, 4, 4, 4, 4, 4, 4, 4, 4},
                  {5, 5, 5, 5, 5, 5, 5, 5, 5},
                  {6, 6, 6, 6, 6, 6, 6, 6, 6},
                  {7, 7, 7, 7, 7, 7, 7, 7, 7},
                  {8, 8, 8, 8, 8, 8, 8, 8, 8},
                  {9, 9, 9, 9, 9, 9, 9, 9, 9}};

// Use to check smaller squares
int[][] array3 = {{1, 2, 3, 1, 2, 3, 1, 2, 3},
                  {4, 5, 6, 4, 5, 6, 4, 5, 6},
                  {7, 8, 9, 7, 8, 9, 7, 8, 9},
                  {1, 2, 3, 1, 2, 3, 1, 2, 3},
                  {4, 5, 6, 4, 5, 6, 4, 5, 6},
                  {7, 8, 9, 7, 8, 9, 7, 8, 9},
                  {1, 2, 3, 1, 2, 3, 1, 2, 3},
                  {4, 5, 6, 4, 5, 6, 4, 5, 6},
                  {7, 8, 9, 7, 8, 9, 7, 8, 9}};

//Actual Solution
int[][] array4 = {{1, 2, 5, 3, 7, 8, 9, 4, 6},
                  {3, 7, 8, 9, 6, 4, 2, 1, 5},
                  {4, 9, 6, 1, 2, 5, 8, 3, 7},
                  {2, 6, 9, 4, 5, 3, 1, 7, 8},
                  {8, 4, 1, 7, 9, 2, 6, 5, 3},
```

{5, 3, 7, 8, 1, 6, 4, 9, 2},
{9, 1, 2, 5, 8, 7, 3, 6, 4},
{6, 5, 3, 2, 4, 9, 7, 8, 1},
{7, 8, 4, 6, 3, 1, 5, 2, 9}};