

In this assignment you are to write a Python program that solves Sudoku puzzles.

You are provided with the template in which you must implement two functions (`rule1`, `rule2`) that apply reduction rules on Sudoku puzzle until it is solved. Your program must take a file containing Sudoku puzzle as a command line argument, print initial state of a Sudoku puzzle, and print solved state of a Sudoku puzzle.

Inputs	Outputs
-file with a sample Sudoku puzzle.	-initial state of Sudoku puzzle; -solved state of Sudoku puzzle.

Following are outputs of the program runs applied on provided test files:

<pre>&gt;python sudoku.py test-1.txt Solving this puzzle: x x x x x x x x x x x x x 1 x x 9 2 x 8 6 x x x x 4 x x x 1 5 6 x x x x x x x x x 3 6 2 x x x x x x x 5 x 7 x 3 x x x x x 8 x x 9 x 8 x 2 x x x x x 7 x x 4 3 x x  Solution: 4 1 2 9 8 5 7 6 3 7 5 3 4 1 6 8 9 2 9 8 6 3 2 7 1 4 5 2 7 1 5 6 8 9 3 4 5 4 9 1 7 3 6 2 8 3 6 8 2 4 9 5 1 7 6 3 4 7 5 1 2 8 9 1 9 5 8 3 2 4 7 6 8 2 7 6 9 4 3 5 1</pre>	<pre>&gt;python sudoku.py test-2.txt Solving this puzzle: x 7 x x x x 3 x 1 x 3 x 5 7 2 x x 6 4 6 x x x x 5 x x x 8 1 x x x x x x x x x 3 x 5 x x x x x x x x x 4 6 x x x 6 x x x x 8 9 8 x x 1 4 6 x 5 x 2 x 7 x x x x 3 x  Solution: 9 7 5 6 8 4 3 2 1 1 3 8 5 7 2 9 4 6 4 6 2 9 3 1 5 7 8 3 8 1 4 6 7 2 9 5 6 2 4 3 9 5 8 1 7 7 5 9 2 1 8 4 6 3 5 4 6 7 2 3 1 8 9 8 9 3 1 4 6 7 5 2 2 1 7 8 5 9 6 3 4</pre>	<pre>&gt;python sudoku.py test-3.txt Solving this puzzle: 4 x x x x x x x x 1 x x 5 x 9 7 3 x x x x x 4 x x 1 9 2 x 4 6 x 8 1 9 7 x x x x 5 1 x x 2 x x 3 4 x 2 x x 8 3 x 5 8 x x 9 2 6 7 x 6 x x x 8 5 x 8 x 1 x x 5 4 7 x  Solution: 4 7 9 1 2 3 6 8 5 1 6 2 5 8 9 7 3 4 5 3 8 7 4 6 2 1 9 2 5 4 6 3 8 1 9 7 6 8 7 9 5 1 3 4 2 9 1 3 4 7 2 5 6 8 3 4 5 8 1 7 9 2 6 7 2 6 3 9 4 8 5 1 8 9 1 2 6 5 4 7 3</pre>
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Please, provide your **information** as the **values** of the following variables. These variables are **declared** at the **top** of the provided template.

```
myName = 'first_name, last_name'
myTechID = '0000000'
myTechEmail = 'abc123' #only your email id omit @latech.edu
```

You must properly cite the sources if you use **any help** from peers or **any code/ideas** from online resources. **Failure to do so will be treated as a plagiarism.** Properly citing the sources should be done as a **comment** in your code. Some examples:

```
# found this code at: <source url>
# used idea from: <source url>
# <peer name> helped me with this part
```