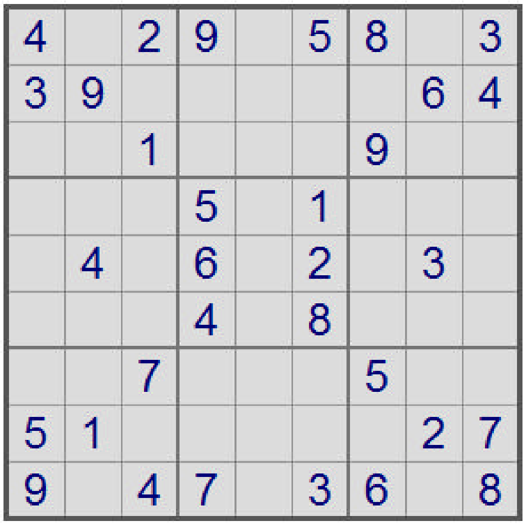
Problem G

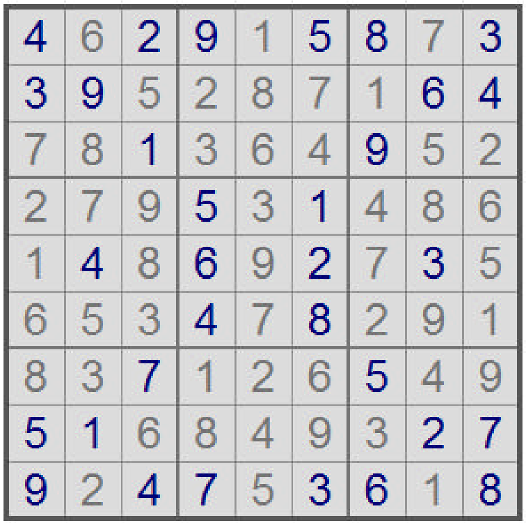
Creating Sudoku puzzles

Input File: Standard Input
Output: Standard Output

Sudoku is an addictive puzzle game that recently has become very popular. Given a **9x9** grid, the task is to fill all empty squares with the digits **1** to **9**, so that every row, every column, and every 3x3 box contains the digits **1** through **9** exactly once. Some of the squares already have digits in them, and these must not be changed. A Sudoku puzzle always have one unique solution. The figure below to the left is an example of a Sudoku puzzle, and the figure to the right its solution.



4		2	9		5	8		3
3	9						6	4
		1				9		
			5		1			
	4		6		2		3	
			4		8			
		7				5		
5	1						2	7
9		4	7		3	6		8



4	6	2	9	1	5	8	7	3
3	9	5	2	8	7	1	6	4
7	8	1	3	6	4	9	5	2
2	7	9	5	3	1	4	8	6
1	4	8	6	9	2	7	3	5
6	5	3	4	7	8	2	9	1
8	3	7	1	2	6	5	4	9
5	1	6	8	4	9	3	2	7
9	2	4	7	5	3	6	1	8

Now, I wouldn't want to spoil the fun of solving a Sudoku puzzle "manually" by asking you to write a program to solve an arbitrary Sudoku puzzle. Instead, you're asked to write a program which assists Sudoku puzzle designers. One way to construct new Sudoku puzzles is to make them aesthetically appealing by letting the fixed digits have nice patterns. The difficulty lies in making sure there is only one solution to the puzzle you have created. This is where a computer program can help.

Your task is, given a incomplete Sudoku puzzle (meaning that it probably has more than one solution), complete the puzzle by adding digits to the empty squares so that a puzzle with a unique solution is created. No unnecessary digits may be added. That is, if you would remove any of the added digits, a (invalid) puzzle with multiple solutions should appear. Note that this does *not* mean that you have to create a puzzle by adding the fewest numbers of digits (which is a much harder task).

Input

The first line in the input contains the number of test cases (at most 25). Each case consists of 9 lines, each line containing 9 characters. These lines make up the (incomplete) Sudoku puzzle. A dot ('.') is used to mark empty squares. Test cases are separated with a blank line.

Output

For each test case, output 9 lines in the same format as the input describing a Sudoku puzzle based on the input grid, satisfying the constraints above. Separate the test cases with a blank line. Any valid solution will be accepted.

Sample Input

```
2
4.29.58.3
39.....6.
..1...9..
...5.1...
.4.6.....
...4.8...
......5..
51.....27
9.47.36.8

123......
456......
789......
......123
......456
......789
...123...
...456...
...789...
```

Output for Sample Input

```
4.29.58.3
39.....64
..1...9..
...5.1...
.4.6.2.3.
...4.8...
..7...5..
51.....27
9.47.36.8

123......
4568...3.
789..1...
..5...123
3....2456
......789
...123...
...456...
.4.789...
```

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