

Problem C

Sudoku

source: sudoku.c or sudoku.cpp or sudoku.java

Description

Sudoku is a very simple task. A square table with 9 rows and 9 columns is divided to 9 smaller squares 3×3 as shown on Figure 2. In some of the cells are written decimal digits from 1 to 9. The other cells are empty. The goal is to fill the empty cells with decimal digits from 1 to 9, one digit per cell, in such way that in each row, in each column and in each marked 3×3 subsquare, all the digits from 1 to 9 to appear. Write a program to solve a given Sudoku-task.

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

Figure 2: A Sudoku table.

Input

The input data will start with the number of the test cases. For each test case, 9 lines follow, corresponding to the rows of the table. On each line a string of exactly 9 decimal digits is given, corresponding to the cells in this line. If a cell is empty it is represented by 0.

Output

For each test case your program should print the solution in the same format as the input data. The empty cells have to be filled according to the rules. If solutions is not unique, then the program may print any one of them.

Sample

Input	Output
1	143628579
103000509	572139468
002109400	986754231
000704000	391542786
300502006	468917352
060000050	725863914
700803004	237481695
000401000	619275843
009205800	854396127
804000107	