

7788 Tight-Fit Sudoku

At some point or another, most computer science students have written a standard Sudoku solving program. A slight twist has been added to standard Sudoku to make it a bit more challenging.

Digits from 1 to 9 are entered in a 6×6 grid so that no number is repeated in any row, column or 3×2 outlined region as shown below. Some squares in the grid are split by a slash and need 2 digits entered in them. The smaller number always goes above the slash.

/	/ ₅	4	3	2	/
	6	/	/		/
	7/		/	/	2
8	/	/		/ ₃	
/		/	/	4	
/	8	7	6	5/	/

Incomplete Grid

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

Solution Grid

For this problem, you will write a program that takes as input an incomplete puzzle grid and outputs the puzzle solution grid.

Input

The first line of input contains a single decimal integer P , ($1 \leq P \leq 100$), which is the number of data sets that follow. Each data set should be processed identically and independently.

Each data set consists of 7 lines of input. The first line of the data set contains the data set number, K . The remaining 6 lines represent an incomplete Tight-Fit Sudoku grid, each line has 6 *data elements*, separated by spaces. A *data element* can be a digit (1..9), a dash ('-') for a blank square or two of these separated by a slash ('/').

Output

For each data set there are 7 lines of output. The first output line consists of the data set number, K .

The following 6 lines of output show the solution grid for the corresponding input data set. Each line will have 6 *data elements*, separated by spaces. A *data element* can be a digit (1..9), or 2 digits separated by a slash ('/').

Sample Input

```
1
1
```

```
-/- -/5 4 3 2 -/-  
- 6 -/- -/- - -/-  
- 7/- - -/- -/- 2  
8 -/- -/- - -/3 -  
-/- - -/- -/- 4 -  
-/- 8 7 6 5/- -/-
```

Sample Output

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