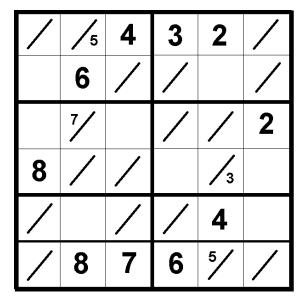# F • Tight-Fit Sudoku

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 6x6 grid so that no number is repeated in any row, column or 3x2 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.

Incomplete Grid

Solution Grid

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

Greater New York Region 2016

acm International Collegiate
Programming Contest

Event Sponsors

IBM®

MANHATTAN COLLEGE
1853

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	Sample Output
1	1
1	7/9 1/5 4 3 2 6/8
-/- -/5 4 3 2 -/-	3 6 2/8 1/9 7 4/5
- 6 -/- -/- - -/-	1 7/9 3 4/5 6/8 2
- 7/- - -/- -/- 2	8 2/4 5/6 7 1/3 9
8 -/- -/- - -/3 -	5/6 3 1/9 2/8 4 7
-/- - -/- -/- 4 -	2/4 8 7 6 5/9 1/3
-/- 8 7 6 5/- -/-	