

Problem 4—Polyominoes Are Falling Down

Back when Apu was working on his Ph.D. in Computer Science, he invented the video game Polyominoes Are Falling Down. It was an addictive game, but the Russians stole it and renamed it Tetris. D'oh! Much like the game of Tetris, in this game, polyominoes (shapes consisting of squares orthogonally connected) drop down from the sky; however, the player cannot shift or rotate them. Pretty much, the player just watches the pieces drop. The pieces drop until they hit the bottom of the screen or they hit another piece. After a piece lands, all rows on the board consisting entirely of squares (and no empty space) are removed and the remaining rows are dropped so that there are no entirely blank rows either. Your program should print the final board after pieces are dropped.

INPUT SPECIFICATION. The input file is divided into a number of cases. Each case begins with an unsigned decimal integer indicating width of the board (w), followed by **<EOLN>**. Then follow a number of pieces. Each piece consists of a number of rows (each containing EXACTLY w characters, followed by **<EOLN>**). An extra **<EOLN>** follows each piece. Each row of the piece consists entirely of *'s and spaces. The *'s represent the squares of the piece. Each piece is guaranteed to be orthogonally connected, and each row is guaranteed to contain at least one *. An extra **<EOLN>** follows the last piece to be dropped. "0**<EOLN>**" follows the last case. It is not to be processed; it merely signifies the end of the input.

OUTPUT SPECIFICATION. The output cases appear in the same order as the corresponding input cases. The pieces are to be dropped into the board in the order in which they appear in the input case. After each piece is dropped, the full rows are to be removed. After all pieces are processed, the output should be "Case cs :**<EOLN>**" where cs is the case number, followed by the rows of the board, each printed to its full width and each terminated by **<EOLN>**. An extra **<EOLN>** follows each output case.

SAMPLE INPUT.

```
5<EOLN>
*****<EOLN>
*****<EOLN>
<EOLN>
*****<EOLN>
*****<EOLN>
<EOLN>
*****<EOLN>
*****<EOLN>
*****<EOLN>
<EOLN>
<EOLN>
5<EOLN>
*****<EOLN>
*****<EOLN>
<EOLN>
*****<EOLN>
*****<EOLN>
<EOLN>
*****<EOLN>
<EOLN>
<EOLN>
0<EOLN>
<EOF>
```

SAMPLE OUTPUT.

```
Case•1:•<EOLN>
•••••<EOLN>
<EOLN>
Case•2:•<EOLN>
*****<EOLN>
*****<EOLN>
*****<EOLN>
*****<EOLN>
<EOF>
```