Q - Minesweeper

Have you ever played Minesweeper? The goal of the game is to find where are all the mines within a *M* by *N* field. To help you, the game shows a number in a square which tells you how many mines there are adjacent to that square. By “adjacent”, we include rows, columns, and diagonals, so a square may have at most 8 adjacent squares. For example, the following 4 by 4 field contains two mines, each represented by the * character:

```
*...
....
.*..
....
```

If we insert hint numbers into this mine field, it looks like this:

```
*100
2210
1*10
1110
```

Input

The input consists of an arbitrary number of fields. The first line of each field contains two integers *n* and *m* ($0 < n,m \leq 100$) which stands for the number of lines and columns of the field respectively. The next *n* lines contains exactly *m* characters and represent the field. Each safe square is represented by a "." character (without the quotes) and each mine square is represented by a "*" character (also without the quotes). The first field line where $n = m = 0$ represents the end of input and should not be processed.

Output

For each field, you must print the following message on the first line:

`Field #x:`

Where x stands for the number of the field (starting from 1). The next *n* lines must contain the field with the "." characters replaced by the number of adjacent mines to that square. There must be an empty line between field outputs, but no empty line at the end.

Sample Input	Sample Output
4 4 ***...** **....** **.*..** **....** **3 5** ****...** **.....** **.*...** **0 0**	**Field #1:** ***100** **2210** **1*10** **1110** **Field #2:** ****100** **33200** **1*100**

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