

**DWITE Online Computer Programming Contest  
January 2007**

**Problem 2**

**Minesweeper**

Have you ever played Minesweeper? It's a cute little game which comes within a certain Operating System which name we can't really remember. Well, the goal of the game is to find where are all the mines within a MxN field. To help you, the game shows a number in a square which tells you how many mines there are adjacent to that square. For instance, suppose the following 4x4 field with 2 mines (which are represented by an \* character):

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

If we would represent the same field placing the hint numbers described above, we would end up with:

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

Each square can have at most 8 adjacent squares.

Your job is to find is to find the number of mines that are adjacent to a specific square. These specific squares will be represented by the lowercase letters a, b, c, d and e.

The first line of input file (**DATA21.txt** for the first submission and **DATA22.txt** for the second submission) will contain 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 an "." character (without the quotes) and each mine square is represented by an "\*" character (also without the quotes). Within the field will also be contained the lowercase letters a, b, c, d and e.

The output file (**OUT21.txt** for the first submission and **OUT22.txt** for the second submission) will contain five lines of data. It will list, for each of the lower case letters, the number of mines located adjacent to that letter. Separate the lower case letter from the number of mines with a hyphen. The output will be listed in alphabetical order.

<u>Sample Input</u>	<u>Sample Output</u>
4 4 * . a . b . c . . * . . . d . e	a-0 b-2 c-1 d-1 e-0

Based on Problem 10189 at [online-judge.uva.es](http://online-judge.uva.es) (<http://acm.uva.es/p/v101/10189.html>)