

The goal of the game is to find where all the mines are located within a  $M \times N$  field.

The game shows a number in a square which tells you how many mines there are adjacent to that square. Each square has at most eight adjacent squares. The  $4 \times 4$  field on the left contains two mines, each represented by a “\*” character. If we represent the same field by the hint numbers described above, we end up with the field on the right:

|      |      |
|------|------|
| *... | *100 |
| .... | 2210 |
| .*.. | 1*10 |
| .... | 1110 |

### Input

The input will consist of an arbitrary number of fields. The first line of each field contains two integers  $N$  and  $M$  ( $0 < N, M < 100$ ) which stand for the number of lines and columns of the field, respectively.

Safe squares are denoted by “.” and mine squares by “\*”, both without the quotes.

### Output

The  $N$  lines should contain the field with the “.” characters replaced by the number of mines adjacent to that square.

| Sample Input                       | Sample Output                  |
|------------------------------------|--------------------------------|
| <pre> 3 5 **... ..... .*... </pre> | <pre> **100 33200 1*100 </pre> |