# DWITE '11 R2 #2 - Scratch Card

**Time limit:** 1.0s **Memory limit:** 64M

### DWITE, November 2011, Problem 2

The economically questionable lottery business is making a mass-produced rectangular scratch card. It consists of a grid of hidden uppercase letters; you win by scratching letters so that they form a certain phrase, also consisting of uppercase letters. It might look like this one, where you would like to find the phrase `DWITEISAWESOMEHAHA`:

```
DLFKJW
FKIGDT
EKIKSA
WQEDSO
MEHAHA
```

You would like to mass produce correctly scratched scratch cards, to sell in the black market. To do this, you would like to have a stencil, of the same size as the grid. For example, using this stencil, where `.` means "scratch" and `#` means "don't scratch":

```
.####.
##.##.
.#.#..
.#.#..
......
```

You obtain the correct solution:

```
D####W
##I##T
E#I#SA
W#E#SO
MEHAHA
```

Given a grid of letters and a phrase, you would like to construct a stencil to solve this puzzle. If, in fact, there is no solution, you should output a stencil with the letter `x` for each spot.

The input will contain 5 test cases. Each test case will begin with a line of two space-separated integers $1 \leq H, W \leq 10$, the height and width of the grid. The next $H$ lines will contain $W$ uppercase letters each, describing the grid of letters. The final line of each test case will be a single string of uppercase letters, the solution string.

The output will contain 5 sets of stencils, as described above. You may assume that solutions are unique. Refer to the sample examples for the output format.

## Sample Input

```
5 6
DLFKJW
FKIGDT
EKIKSA
WQEDSO
MEHAHA
DWITEISAWESOMEHAHA
2 2
AB
CD
E
```

## Sample Output

```
.####.
##.##.
.#.#..
.#.#..
......
xx
xx
```

Problem Resource: DWITE