E. Dasha and cyclic table

time limit per test: 6 seconds
memory limit per test: 512 megabytes
input: standard input
output: standard output

Dasha is fond of challenging puzzles: Rubik's Cube $3 \times 3 \times 3$, $4 \times 4 \times 4$, $5 \times 5 \times 5$ and so on. This time she has a cyclic table of size $n \times m$, and each cell of the table contains a lowercase English letter. Each cell has coordinates (i, j) ($0 \le i < n$, $0 \le j < m$). The table is cyclic means that to the right of cell (i, j) there is the cell , and to the down there is the cell .

Dasha has a pattern as well. A pattern is a non-cyclic table of size $r \times c$. Each cell is either a lowercase English letter or a question mark. Each cell has coordinates (i, j) ($0 \le i < r$, $0 \le j < c$).

The goal of the puzzle is to find all the appearance positions of the pattern in the cyclic table.

We say that the cell (i, j) of cyclic table is an appearance position, if for every pair (x, y) such that $0 \le x < r$ and $0 \le y < c$ one of the following conditions holds:

- There is a question mark in the cell (x, y) of the pattern, or
- The cell of the cyclic table equals to the cell (x, y) of the pattern.

Dasha solved this puzzle in no time, as well as all the others she ever tried. Can you solve it?.

Input

The first line contains two integers n and m ($1 \le n, m \le 400$) — the cyclic table sizes.

Each of the next n lines contains a string of m lowercase English characters — the description of the cyclic table.

The next line contains two integers r and c ($1 \le r, c \le 400$) — the sizes of the pattern.

Each of the next r lines contains a string of c lowercase English letter and/or characters '`?`' — the description of the pattern.

Output

Print n lines. Each of the n lines should contain m characters. Each of the characters should equal '`0`' or '`1`'.

The j-th character of the i-th (0-indexed) line should be equal to '`1`', in case the cell (i, j) is an appearance position, otherwise it should be equal to '`0`'.

Examples

input
5 7 qcezchs hhedywq wikywqy qckrqzt bqexcxz 3 2 ?? yw ?q

output
0000100 0001001 0000000

```
0000000
0000000
```

input

```
10 10
fwtoayylhw
yyaryyjawr
ywrdzwhscy
hnsyyxiphn
bnjwzyyjvo
kkjgseenwn
gvmiflpcsy
lxvkwrobwu
wyybbcocyy
yysijsvqry
2 2
??
yy
```

output

```
1000100000
0000000001
0001000000
0000010000
0000000000
0000000000
0000000000
0100000010
1000000001
0000010000
```

input

```
8 6
ibrgxl
xqdcsg
okbcgi
tvpetc
xgxxig
igghzo
lmlaza
gpswzv
1 4
gx??
```

output

```
000100
000001
000000
000000
010001
000000
000000
000000
```