

Puzzle Game

Description

Kyaru and you are playing a puzzle game.

In this game, the puzzle board is divided into n rows and m columns of cells, and there is a number $w_{i,j}$ ($1 \leq i \leq n, 1 \leq j \leq m$) on each cell. Kyaru will modify the board q times. For each modification, she will choose two non-overlapping and non-adjacent rectangle areas of the same height and width on board and swap the cells inside them as two wholes.

After all modifications, Kyaru would like to know what the puzzle board looks like at the end.

Input

The input contains several cases. For each test case, there holds:

The first line of input contains three integer, seperated by spaces, indicating n, m and q .

The i -th line of the follwing n lines contains m integers denoting the i -th row of the puzzle board. The numbers are seperated by spaces.

The i -th line of the next following q lines contains six integers r_1, c_1, r_2, c_2, h, w denoting the i -th modification, where r_1, c_1 represent the row and column of the upper left corner of the first rectangle; r_2, c_2 represent the row and column of the upper left corner of the second rectangle; h, w represent the height and width of these two rectangles.

The input of test cases terminates by end of file.

Output

For each test cases, print n lines denoting the modified puzzle board. The i -th line should contain m integers, separated by spaces, denoting the i -th row of the board.

Sample Input/Output

Input

```
4 4 2
1 1 2 2
1 1 2 2
3 3 4 4
3 3 4 4
1 1 3 3 2 2
3 1 1 3 2 2
2 2 1
1 2
3 4
1 1 2 2 1 1
```

Output

```
4 4 3 3
4 4 3 3
2 2 1 1
2 2 1 1
4 2
3 1
```

Constraint

$2 \leq n, m \leq 1000, 1 \leq q \leq 3000, 1 \leq w_{i,j} \leq 1000000$.

Hint

$O(nm + q(n + m))$ algorithm can pass through all test cases.