

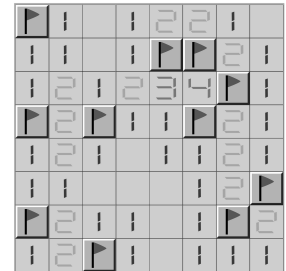


## Task Minesweeper

Marko is a regular university student who still shows up to every lecture, even though his stomach and head often ache from studying late into the night. Because he's also a gifted student, he often finds the lectures boring, so instead of listening he plays his favorite game, *Minesweeper*. Eventually, even that got boring, so he decided to create his own version of the game.

In Marko's version of *Minesweeper*, he starts the game already knowing the positions of all  $k$  bombs on a board with  $n$  rows and  $m$  columns. Each cell can contain at most one bomb.

His task is to fill every non-bomb cell with the number of bombs in the eight surrounding cells. Cells that contain bombs are marked with "B". Your task is to output the matrix generated according to Marko's rules.



### Input

In the first line are the natural numbers  $n$ ,  $m$  and  $k$  ( $1 \leq n, m \leq 500, 1 \leq k \leq n \cdot m$ ), the numbers from the problem statement.

In each of the following  $k$  lines are the numbers  $r_i$  and  $s_i$  ( $1 \leq r_i \leq n, 1 \leq s_i \leq m$ ), the row and column in which one of the bombs is located.

### Izlazni podaci

In  $n$  rows, output  $m$  characters separated by a space, the matrix produced according to the rules of Marko's game.

### Scoring

Subtask	Points	Constraints
1	15	$n = 1$
2	18	$k = 1$
3	17	No additional constraints.

### Examples

#### input

1 6 1

1 3

#### output

0 1 B 1 0 0

#### input

3 3 3

1 1

2 3

1 3

#### output

B 3 B

1 3 B

0 1 1

**Clarification of the first example:** In the cell in the 3rd column there is a bomb (the letter "B"). The cells of the matrix in the 2nd and 4th columns (marked with the number 1) are adjacent to it.