Divisibility Grid

You are given two integers r, c and an **odd** integer k. Consider a grid with r rows and c columns. You want to fill this grid with integers.

We call a filling of the grid *valid* if it satisfies both of the following:

- every cell contains an integer from 1 to $r \cdot c$;
- each integer from 1 to $r \cdot c$ appears in the grid exactly once.

A *divisibility* in the grid is a sequence of k consecutive cells in the same row or in the same column such that the sum of the numbers in these cells is divisible by k.

Among all valid fillings of the grid, find any one that maximizes the number of *divisibilities* in the grid.

Input

The first line contains an integer τ ($1 \le \tau \le 10^4$) – the number of test cases. τ test cases follow, each is presented by a single line with three integers r, c, and k ($1 \le r, c \le 50$; $1 \le k \le \min\{r, c\}$; k is odd).

It is guaranteed that the sum of $r \cdot c$ over all test cases does not exceed 10^4.

Output

For each test case, print r lines, each containing c numbers, representing an optimal filling.

If there are multiple solutions, you can output any of them.

Sample Input 1	Sample Output 1
2 3 2 1 3 3 3	4 5 6 2 3 1 6 2 1 9 8 7 3 5 4

Sample Explanation

In the first test case, since $k = 1$, every valid filling of the grid should have the same number of *divisibilities*.

In the second test case, the maximum number of *divisibilities* is 6.

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