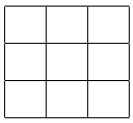
Problem E. Blackboard

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

At the math lesson teacher explained several regular ways to fill matrix $N \times N$ with sequential integers from 1 to N^2. First, he draws the empty matrix $N \times N$ (at the figure below $N = 3$).



Then he filled matrix with the sequential integers in four different ways, starting from leftmost upper cell:

(1)

1	2	3
6	5	4
7	8	9

(2)

1	6	7
2	5	8
3	4	9

(3)

1	2	3
8	9	4
7	6	5

(4)

1	8	7
2	9	6
3	4	5

Then he asked Vasya to fill the matrix $N \times N$ in similar ways. Vasya is too lazy to do it, so he asked you to write a program to do it.

Input

Input consists of two integers N ($1 \le N \le 100$) and a ($1 \le a \le 4$), where a defines the way to fill the matrix.

Output

Print N lines, each containing N space-separated integers — the resulting matrix.

Examples

standard input	standard output
3 1	1 2 3 6 5 4 7 8 9
3 2	1 6 7 2 5 8 3 4 9
3 3	1 2 3 8 9 4 7 6 5
3 4	1 8 7 2 9 6 3 4 5

Note

Samples coincide with four matrices, presented by teacher.