H. Rotate Matrix

You are given a square matrix of integer numbers. Rotate it 90 degrees clockwise (see examples for clarification of rotation).

Input

The input consists of n lines ($1 \leq n \leq 10$, n is not given explicitly). Each of the lines contains n space-separated integers; j-th integer in i-th line corresponds to matrix element m_{ij} ($1 \leq m_{ij} \leq 100$).

Output

Output the rotated matrix in the same format as the input.

Examples

input
1 2 3
4 5 6
7 8 9

output
7 4 1
8 5 2
9 6 3

input
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16

output
13 9 5 1
14 10 6 2
15 11 7 3
16 12 8 4