

To Triangles

DiPS CodeJam 23

Prompt

Pranav and Prithvi are back on their adventure (CodeJam 22, “To the Treasure!”) this year. They find themselves at the beginning of a path that is dotted with obstacles, each of which as a similar puzzle: a grid of numbers is given, and they have to produce a “triangle-like” version of this grid. For example:

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

translates to

$$\begin{bmatrix} 7 & & \\ 4 & 8 & \\ 1 & 5 & 9 \\ 2 & 6 & \\ 3 & & \end{bmatrix}$$

Input Format

- The first line contains an integer n , denoting the size of the grid.
- The next n lines contain n space-separated numbers each.

Output Format

Your output should contain a space-separated triangle-shaped grid produced from the input.

Sample Input/Output

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

Sample Program

```
from collections import defaultdict

n=int(input())

matrix=[]

for i in range(n):
    matrix.append(list(map(int, input().strip().split()))))

d = defaultdict(list)

for y in range(n):
    for x in range(n):
        d[x-y].append(matrix[y][x])

for i in sorted(d):
    print(" ".join(map(str,d[i])))
```