
10. Unwrapping a Spiral

Program Name: Unwrap.java

Input File: unwrap.dat

Given a square matrix of integers, we can unwrap it by following a spiral path. The spiral path repeats the following sequence until it terminates:

Left to Right
Top to Bottom
Right to Left
Bottom to Top

Input

The first line of input will contain a single integer n that indicates the dimension of the matrix. Each of the next n lines will contain n integer numbers separated by one or more spaces.

Output

You will print out the unwrapped spiral of numbers with 10 numbers to a line, where each number is followed by a single space. The last line may have less than 10 numbers.

Example Input File

```
5
11 32 23 34 25
26 17 38 29 10
31 12 13 14 15
36 37 18 19 20
21 22 33 24 25
```

Example Output to Screen

```
11 32 23 34 25 10 15 20 25 24
33 22 21 36 31 26 17 38 29 14
19 18 37 12 13
```