

Transposing the matrix

Given a two-dimensional array A . It is required to swap the first row with the first column, the second row with the second column, etc. It is necessary to output the resulting two-dimensional array.

Input

From the standard input device, the number N is entered in the first row ($1 \leq N \leq 100$) - the number of rows and columns of the two-dimensional array A . In the next N rows exactly N elements are entered.

Output

It is required to output a two-dimensional array A after exchanging rows and columns. **It's not necessary to display a space after the last element of each row.**

Sample Input

```
3
1 2 3
4 5 6
7 8 9
```

Sample Output

```
1 4 7
2 5 8
3 6 9
```

Note

In a course in higher mathematics, the procedure for rearranging the corresponding rows and columns of a square matrix is called **transposition**.