

Statement

Given a 2D array A, convert all rows to columns and columns to rows.

Input

First line of input contains two space separated integers, N - total rows, M - total columns. The following N lines each contain M space-separated integers, the i, j^{th} element of the array ($A[i][j]$).

Output

Print M lines, each containing N space-separated integers, such that the input is transposed.

Constraints

- $1 \leq N \leq 10$
- $1 \leq M \leq 10$
- $1 \leq A[i][j] \leq 100$, where $0 \leq i < N$ and $0 \leq j < M$

Sample

Sample Input	Sample Output
3 5	13 9 5
13 4 8 14 1	4 6 12
9 6 3 7 21	8 3 17
5 12 17 9 3	14 7 9
	1 21 3