

Problem M. Mikhail Tikhomirov

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

You are given an integer n and a number of non-empty sets of elements from 0 to $n - 1$.
Construct a permutation p of length n , such that for every given set S the following holds:

$$\max_{s \in S} p_s - \min_{s \in S} p_s = |S| - 1$$

The solution is guaranteed to exist. If there are multiple solutions output any.

Input

The first line contains two integers n and m ($3 \leq n \leq 100, 1 \leq m \leq 100$), length of the permutation and the number of sets.

m lines follow. i -th of them contains an integer k_i ($2 \leq k_i < n$) followed by k_i integers $a_{i,j}$ ($0 \leq a_{i,j} < n, a_{i,j} < a_{i,j+1}$), size of the i -th set and its elements themselves.

It is guaranteed that the given sets are pairwise distinct and the answer exists.

Output

Print n integers. i -th of them should be equal to p_i .

Examples

standard input	standard output
3 1 2 0 1	0 1 2
8 5 3 4 5 7 3 2 3 6 3 2 5 7 2 4 5 2 1 6	7 6 3 4 0 1 5 2