

# I. Different variables

time limit per test: 2 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

$N$  variables  $X_1, \dots, X_N$  can have positive integer values. You are given  $K$  constraints for these value that look like "the values of variables  $X_{i_1}, X_{i_2}, \dots, X_{i_M}$  are different". Among all possible lists of values of these variables that satisfy these constraints select the ones which have minimum possible  $\max(X_i)$ . Output lexicographically least of these lists.

## Input

The first line of input contains two integers  $n$  and  $k$  ( $2 \leq N \leq 10$ ,  $1 \leq K \leq 100$ ) — the number of variables and the number of constraints.

The following  $K$  lines contain the constraints, formatted as follows: the first number in the line  $M$  ( $2 \leq M \leq N$ ) gives the number of variables in the constraint. After it follow  $M$  space-separated integers  $i_1, \dots, i_M$  — the indices of the variables used in the constraint ( $1 \leq i_j \leq N$ ). All  $i_j$  in one constraint are different.

## Output

Output the values of  $X_1, X_2, \dots, X_N$  in a single line, separated with single spaces.

## Examples

|               |
|---------------|
| <b>input</b>  |
| 2 1<br>2 1 2  |
| <b>output</b> |
| 1 2           |

  

|                       |
|-----------------------|
| <b>input</b>          |
| 3 2<br>2 1 2<br>2 2 3 |
| <b>output</b>         |
| 1 2 1                 |