A. Dividing Orange

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

One day Ms Swan bought an orange in a shop. The orange consisted of $n \cdot k$ segments, numbered with integers from 1 to $n \cdot k$.

There were k children waiting for Ms Swan at home. The children have recently learned about the orange and they decided to divide it between them. For that each child took a piece of paper and wrote the number of the segment that he would like to get: the i-th $(1 \le i \le k)$ child wrote the number a_i $(1 \le a_i \le n \cdot k)$. All numbers a_i accidentally turned out to be different.

Now the children wonder, how to divide the orange so as to meet these conditions:

- each child gets exactly n orange segments;
- the i-th child gets the segment with number a_i for sure;
- no segment goes to two children simultaneously.

Help the children, divide the orange and fulfill the requirements, described above.

Input

The first line contains two integers n, k $(1 \le n, k \le 30)$. The second line contains k space-separated integers $a_1, a_2, \ldots, a_k$ $(1 \le a_i \le n \cdot k)$, where a_i is the number of the orange segment that the i-th child would like to get.

It is guaranteed that all numbers a_i are distinct.

Output

Print exactly $n \cdot k$ distinct integers. The first n integers represent the indexes of the segments the first child will get, the second n integers represent the indexes of the segments the second child will get, and so on. Separate the printed numbers with whitespaces.

You can print a child's segment indexes in any order. It is guaranteed that the answer always exists. If there are multiple correct answers, print any of them.

Examples

input
2 2 4 1
output
2 4 1 3

input
3 1 2
output
3 2 1

→ **Attention**

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #150 (Div. 2)

Finished

→ **Virtual participation**

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ **Problem tags**

implementation

No tag edit access

→ **Contest materials**

- Announcement
- Tutorial