Friend suggestion

An want to make friends with students in EIU on Facebook. Observing students on the university's Facebook group, they have few friends. Therefore, An will make friend suggestion for friends who have less than L friends. He also hope his friends too. Help him to write a program to help the user make friend find out his/her friends who have less than L friends.

Input

The first line contains 3 integers N, respectively, the number of students in the group (numbered from 0 to N-1), the number of friendships, and the minimum number of friends a person should have. $(0 < N \leq 10^4)$, M $(0 \leq M \leq 10^5)$, L $(0 < N \leq 10^3)$

In the next M lines, each line is a number u and v, showing that you and v are friends.

Output

Output student in ascending order and list friends who the student should send suggestion to. The list friends in ascending order.

Example

Input:
```
5 6 3
0 3
3 1
1 2
0 1
3 4
4 2
```

Output:
```
0
1 0 2
2 4
3 0 4
4 2
```