

Configuring Project Management

The management of an educational institution has outsourced the task of allocating and managing student projects. There are n students, whose project IDs are numbered from **1** to n .

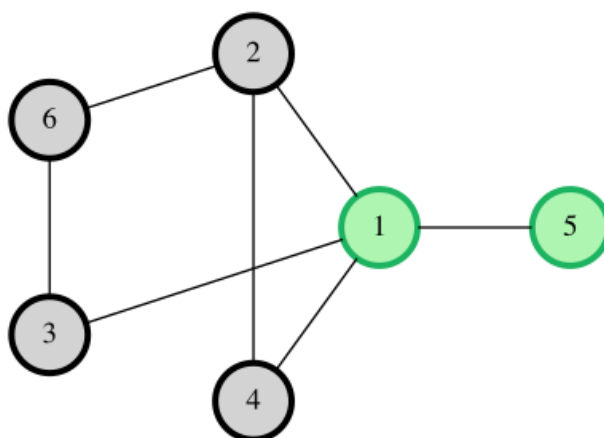
Students who are friends with one-another tend to form a group and present together.

Student **1** decides to have an early-stage project showcase, independent from student project **2**. In order to prevent plagiarism, only the following students can be invited to the showcase.

- Should be friends with Student 1.
- Should not be friends with Student 2.
- Should not be friends with someone(except Student 1) who are friends with Student 2.

Obviously Student 2 can not be invited as well. Given the friendship relations, your task is to determine the number of students invited by student 1 for presentation.

For example, in the friendship relations below, we can see that [3, 4, 5] are friends with 1. Now, 4 is friends with 2 and hence cannot be invited. Also, 3 cannot be invited as he is friends with 6 who is friends with 2. So, Student 1 invites only [5] to the presentation. Note that the third constraint is not applicable for 5 as 1 as an intermediate friend should not be considered for this constraint.



Input Format

The input contains several test scenarios to be handled. In the first line there, there is a single integer t denoting the number of the scenarios. After that, description of scenarios are given in the following format:

- In the first line, there are two space-separated integers n and m denoting the total number of students and the number of pairs of students friends with each other.
- Then, m lines follow.
- The i -th of these lines contains two space-separated integers a, b and denotes that students a and b are friends.

Constraints

- $1 \leq t \leq 100$
- $2 \leq n \leq 10^6$
- $1 \leq m \leq 10^6$
- $1 \leq a, b \leq 10^6$
- $1 \leq \text{Sum of } n, m \text{ over all test cases} \leq 1.5 \cdot 10^6$

Output Format

Print exactly t lines. In the i -th of them print, in increasing order, space-separated IDs of students who are going to be invited to the project showcase, or print -1 if nobody can be invited.

Sample Input 0

```
2
3 2
1 2
3 2
9 8
1 3
1 4
3 2
5 6
7 1
2 8
8 9
9 1
```

Sample Output 0

```
-1
4 7
```

Explanation 0

- In case 1, student 1 and 2 cannot be paired, and student 3 knows student 2 personally. So, no one will be invited to the party. Hence, the output is **-1**.



- In case 2, student 1 knows students 3,4,7 and 9 personally. However, students 3 and 8 know student 2. And student 8 knows student 9. Therefore, student 1 invites students 4 and 7 only.

