CP #31: Troublemakers

Every school class has its troublemakers — those kids who can make the teacher's life miserable. On his own, a troublemaker is manageable, but when you put certain pairs of troublemakers together in the same room, teaching a class becomes very hard. There are n kids in Mrs. Shaida's math class, and there are m pairs of troublemakers among them. The situation has gotten so bad that Mrs. Shaida has decided to split the class into two classes. Help her do it in such a way that the number of troublemaker pairs is reduced by at least a half.

Input Format

The first line of input gives the number of cases, N. N test cases follow. Each one starts with a line containing n ($0 \leq n \leq 100$) and m ($0 < m < 5000$). The next m lines will contain a pair of integers u and v meaning that when kids u and v are in the same room, they make a troublemaker pair. Kids are numbered from 1 to n.

Output Format

For each test case, output one line containing 'Case #x:' followed by L — the number of kids who will be moved to a different class (in a different room). The next line should list those kids. The total number of troublemaker pairs in the two rooms must be at most m/2. If that is impossible, print 'Impossible.' instead of L and an empty line afterwards.

Sample Input 0

```
2
4 3
2 3
1 3
3 4
4 6
1 2
1 3
1 4
2 3
2 4
3 4
```

Sample Output 0

```
Case #1: 3
1 2 4
Case #2: 2
1 3
```