

6309 Balanced Community

A social network can be modeled as a graph in which a node represents an actor and an edge represents some social relation between the two actors. For some applications, the edges may be marked with *positive* or *negative*. Usually a positive edge means a positive emotion while a negative edge is for a negative emotion, such as “liking” or “disliking” respectively.

Imbalance-Compromise-People-Club, ICPC for short, is an Internet social platform providing communications for its members. However, unlike FaceBook, people in ICPC either like or dislike each other. In other words, any two members in ICPC are either friends or enemies. Therefore the relationship can be modeled by a complete graph in which each edge is either positive or negative.

Nana, a member of ICPC, found that these relations are unstable. From time to time, some positive relations change to negative and vice versa. Nana wondered why it happened, so she asked experts the reason. According to their knowledge in social network analysis, a relation changes because there exists some *imbalance*. For any three actors, there are four possible graphs (triples) as shown in Figure 4. The left two triples in the figure are considered as *balanced* triples while the right two triples are *unbalanced*. Furthermore, a group of actors is balanced if and only if any triple in the group is balanced.

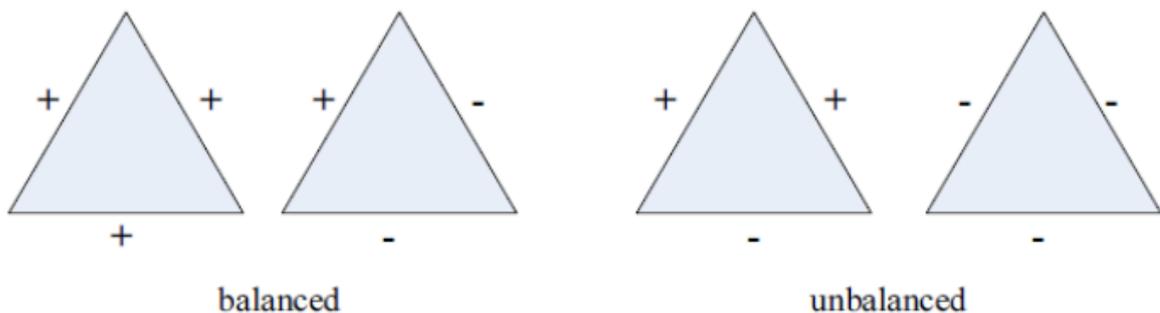


Figure 4: Balanced and unbalanced triples.

Now, after knowing the reason, Nana also wants to find out the largest balanced group including herself. Your task is to write a program for finding such a group. Let n denote the number of members in ICPC. For simplicity, all the members have a unique ID which is an integer from 0 to $n - 1$. The ID of Nana is 0.

Input

The input contains several test cases. For each test case, the first line contains two integers n and m , in which n is the number of members in the club and m is the number of positive edges. It is assumed that $n \leq 122$. In the following m lines, each line contains two integers separated by a space, which are the endpoints of a positive edge. Remember that there is an edge between any pair of nodes. Therefore if two nodes are not linked by a positive edge, there is a negative edge. A case with $m = n = 0$ indicates the end of the input and you don't need to process it.

Output

For each test case, your program should output the maximum number of members of a balanced group which contains Nana. The result of each test case should be in an individual line.

Sample Input

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

Sample Output

```
4
4
```