F - Cable TV Network

Input: `standard input`
Output: `standard output`

The interconnection of the relays in a cable TV network is bi-directional. The network is connected if there is at least one interconnection path between each pair of relays present in the network. Otherwise the network is disconnected. An empty network or a network with a single relay is considered connected. The safety factor f of a network with n relays is:

1. n, if the net remains connected regardless the number of relays removed from the net.
2. The minimal number of relays that disconnect the network when removed.

Input

Write a program that reads several data sets from a text file and computes the safety factor for the cable networks encoded by the data sets. Each data set starts with two integers: $0 \leq n \leq 50$, the number of relays in the net, and m, the number of cables in the net. Follow m data pairs (u, v), $u < v$, where u and v are relay identifiers (integers in the range $0 \ldots n-1$). The pair (u, v) designates the cable that interconnects the relays u and v. The pairs may occur in any order. Except the (u, v) pairs, which do not contain white spaces, white spaces can occur freely in input. Input data terminate with an end of file and are correct.

Output

For each data set, the program prints on the standard output, from the beginning of a line, the safety factor of the encoded net.

Sample Input

```
0 0
1 0
3 3 (0,1) (0,2) (1,2)
2 0
5 7 (0,1) (0,2) (1,3) (1,2) (1,4) (2,3) (3,4)
```

Sample Output

```
0
1
3
0
2
```