

# Problem E

## Kingdom Tour

Input file: *testdata.in*

Time limit: 3 seconds

### Problem Description

The high king of Potato and Tomato Country (PTC) wants to make a tour of his kingdom. He wants to start from the capital, visit the most number of cities in such a way that he will not visit any city or road twice, and then return to the capital. Please help the king find out the route.

### Technical Specification

- Some cities may not be reachable from the capital.
- The number of cities (including the capital) is no more than 30.

### Input Format

There are multiple test cases. The first line of each test case has the number of cities (including the capital)  $N$  and the number of roads  $R$ . All the cities are numbered from 0 to  $N - 1$  and the capital is numbered 0. Each of the next  $R$  lines has two integers,  $i$  and  $j$ , to indicate that there is a bi-directional road connecting city  $i$  and city  $j$ .

### Output Format

For each test case please output the maximum number of non-capital cities the PTC king could visit in his tour in a line.

### Sample Input

```
2 1
0 1
6 7
0 1
0 2
1 2
1 3
2 5
3 4
4 5
```

### Sample Output

```
0
5
```