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Maximal Tourism   🔒 locked

H by philipsweng

Problem	Submissions	Leaderboard	Discussions	Editorial 🔒

A country has n cities numbered from 1 to n and m bidirectional bus routes for traveling between cities. A pair of cities may be connected by multiple bus routes, and one or more bus routes may connect a city to itself.

For example, the diagram below has $n = 8$ cities and $m = 7$ bus routes given by the pairs $(4, 4)$, $(2, 3)$, $(2, 3)$, $(2, 5)$, $(2, 7)$, $(5, 7)$, $(6, 8)$:
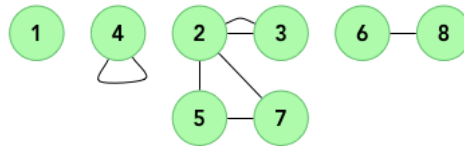
In the graph above, city 1 has no bus routes; city 4 is only connected to itself; cities 2, 3, 5, and 7 are connected to each other; and cities 6 and 8 are connected to each other.

Jason wants to fly into one of the country's cities and then travel to as many connected cities as possible via the bus system. Given a map of the country, can you find the maximum number of connected cities Jason can visit?

Input Format

The first line contains two space-separated integers describing the respective values of n and m.
Each line i of the m subsequent lines contains two space-separated integers, u_i and v_i, describing a bus route connecting cities u_i and v_i.

Constraints

- $1 \leq n, m \leq 10^5$
- $1 \leq u_i, v_i \leq n$

Output Format

Print an integer denoting the maximum number of cities Jason can visit.

Sample Input 0

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

Sample Output 0

```
5
```

Explanation 0

The diagram below depicts a map of $n = 8$ cities and $m = 5$ bus routes:

Jason has the following options:

- Start from city 6 and only visit that 1 city.

- Start from city 5 or city 8 and visit a total of 2 cities (i.e., cities 5 and 8).

- Start from any city in $\{1, 2, 3, 4, 7\}$ and visit a total of 5 cities (i.e., all the connected cities in that set).

Because we want the maximum number of cities he can visit, we print 5 as our answer.

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Submissions: 654
Max Score: 25
Difficulty: Medium

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More

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C#

```csharp
1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4  using System.Linq;
5  class Solution {
6
7      static void Main(String[] args) {
8          string[] tokens_n = Console.ReadLine().Split(' ');
9          int n = Convert.ToInt32(tokens_n[0]);
10         int m = Convert.ToInt32(tokens_n[1]);
11         int[][] route = new int[m][];
12         for(int route_i = 0; route_i < m; route_i++){
13             string[] route_temp = Console.ReadLine().Split(' ');
14             route[route_i] = Array.ConvertAll(route_temp,Int32.Parse);
15         }
16         // Write Your Code Here
17     }
18 }
19
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

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