Important Notes:

1. In your homework, you should explicitly define a graph ADT and use the graph object for all operations.
2. You can use adjacency matrix, adjacency list or any other method to implement your graph.
3. You are not allowed to use java.util.Collections in any level of the implementation. If you need to use a data structure, you should implement it.

**GEBZE TECHNICAL UNIVERSITY**
**Department of Computer Engineering**
**CSE 222-Data Structures**
**2018-2019 Spring**
**HW #8**
**Due Date: 11.05. 2019 23:55**

**Description**

We have a group of people in which an ordered popularity relation is defined between person pairs. If there exist a relation such that (P1,P2) this means that A thinks that B is popular. The relation is transitive which means that if the relations (P1,P2) and (P2,P3) exist, than (P1,P3) also exist event if it is not specified by the input pairs. You are supposed to write a Java program which finds the people who are considered popular by every other person.

**Input (input.txt)**

* Line 1: Two space-separated integers, N (number of people) and M (number of ordered relations)

* Lines 2..1+M: Two space-separated numbers P1 and P2, meaning that P1 thinks P2 is popular.

**Output**

* Line 1: An integer which represents the number of people who are considered popular by every other person.

**Sample Input**

```
3 3
1 2
2 1
2 3
```

**Sample Output**

```
1
```

Submit your homework with file name <stdID>.zip which includes your IntelliJ project and your report. You can ask your questions via asturan@gtu.edu.tr or moodle discussion forum.