

**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, then  $(P1, P3)$  also exist even 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](mailto:asturan@gtu.edu.tr) or moodle discussion forum.