**United** International **University**

Department of **C**omputer **S**cience and **E**ngineering

CSE 2216/CSI 218 (B): Data Structure Laboratory/Data Structure and Algorithms I Laboratory

Trimester: Fall 2022

Final (Implementation), Total Marks: **15**, Total Time: **40 minutes**

**Question 1:** Alice along with her family members moving to a new country.Alice wants to live in a city in that country from where she can visit all the other cities. Alice can visit any other city from the city she lives in if there is a direct or indirect path(s) between the cities. Alice has prepared a shortlist of cities where she wants to live. Alice needs your help on this.

**Input:** You are given the number of cities **V** in the country where Alice wants to live and **E** roads **(s, d)**, those that state that there is a one-directional path from **s** to **d**.

**Then, you are given the number of cities C in the shortlist followed by the name (0<= city name <= V-1) of the city.**

**Output:** You need to answer whether there is any city on the shortlist of Alice from which she can visit all other cities or not.

| **Sample Input 1** | **Sample Output 1** |
| --- | --- |
| 5 6  0 1  0 2  0 4  1 2  3 0  0 4  4  1 2 3 4 | Exist! |

| **Sample Input 2** | **Sample Output 2** |
| --- | --- |
| 5 4  0 1  1 2  2 0  3 0  2  4 0 | Not Exist! |