

**National Institute of Technology Calicut**  
**Department of Computer Science and Engineering**  
CS3095D DATABASE MANAGEMENT SYSTEMS LABORATORY

S5/S7 B.Tech. - Monsoon Semester 2022

**Exercise-7 (11/11/2022)**

**(Relational Algebra)**

**SET A**

---

**(Max. Marks: 5, Time: 2 Hours)**

*(Note: (i) Please note that you can use the PPT and syntaxes file uploaded to eduserver. (ii) After tables creation display the data and take screenshots (Alt+print-Screen) and also for every answer take screenshot to make it convenient for evaluation.)*

**Create a database with the following tables.**

1. *Students\_friends* table with the following schema:

Name Varchar(20), Primary key	Best_friend Varchar(20)
-------------------------------	-------------------------

Each row (x, y) indicates x's best-friend is y. To make it suitable for the queries below please ensure the following in the table.

- There should be at-least one pair of students such that they are best-friends to each other.
- There exists at-least student who is the best-friend to atleast two students.

2. *Hobbies\_info* table with the following schema:

Name Varchar(20), Primary key	Hobby Varchar(20) (only one hobby)
-------------------------------	------------------------------------

Each row (x,y) indicates x's hobby is y.

Ensure that in the database there exists at-least one pair of students such that they are best-friends to each other but their hobbies are different to each other's.

**Based on the above database find the following using the RA tool:**

1. Find all the pairs (x, y) such that "x is best-friend of y and y is best-friend of x". [0.75 Mark]
2. Find the student x's best-friend's hobby. Consider x as some student in your database and print his friend's hobby, you can do this for any user which you have entered in the database. [0.75 Mark]
3. Find all the pairs (x, y) such that "x and y are best-friends to each other but x's hobby is not the same as of y's ". [0.75 Mark]
4. Find the students who is best-friend to at-least two students. [0.75 Mark].

**[Viva carries 2 Marks.]**