

CS5363: DBMS 2

Lab 2 Question Paper

Instructions:

- There are two sets of questions (Set-1 and Set-2). Answer Set-1 if your first digit (right most digit) of roll number is odd. Answer Set-2 if your first digit (right most digit) of roll number is even.
- Write all the correctly executed queries in a text file and upload as assignment submission within 7.30 PM. Write your name, roll and the question set at the top of the text file.

Total Marks: 20 Time: 6PM to 7.30 PM

=====Set-1=====

Q-1:[10 Marks] Consider a database stored procedure as follows:

isHolds(**table**, **attb1**, **attb2**)

This procedure should display TRUE if the functional dependency **attb1**→**attb2** holds in the **table**, otherwise it should display FALSE. Implement this stored procedure in MySQL. Use the tables of the University database for testing.

If it is not possible to implement the stored procedure for generic tables and attributes use a default table and two default attributes of that table. However, 2 marks will be deducted.

Q2:[10 Marks] In the university database, make necessary modifications such that wherever you (or some other user) delete a record from the **student** table, a copy of this record should be written in a backup table automatically. The deletion date also needs to be stored in the backup table.

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This example stored procedure may help you in answering Q1. However, you can use other methods also.

```
delimiter $$

create procedure parent(tableName varchar(15), nodeId int)
begin
    set @s := concat('select parent from ', tableName, ' where id =', nodeId);
    prepare query from @s;
    execute query;
    deallocate prepare query;
end$$

delimiter ;
```

=====Set 2=====

Q-1:[10 Marks] Consider a database stored procedure as follows:

isLossless(table1, table2, common_attr)

This procedure should display TRUE if a natural join on **table1** and **table2** is lossless, otherwise it should display FALSE. Assume that the tables have only one common attribute (**common_attr**). Implement this stored procedure in MySQL. Use the tables of the University database for testing.

In case, it is not possible to implement the stored procedure for generic tables and attributes then you can use two default tables of university relation and one common attribute. However, 2 marks will be deducted.

Q2:[10 Marks] In the university database, make necessary modifications such that wherever you (or some other user) update an existing record from the **student** table, a copy of the old record should be written in a backup table automatically. The update date also needs to be stored in the backup table. *No need to consider insert and delete operations for backup, only update is important for this question.*

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This stored procedure may help you in answering Q1. However, you can use other methods also.

```
delimiter $$

create procedure parent(tableName varchar(15), nodeId int)
begin
    set @s := concat('select parent from ', tableName, ' where id =', nodeId);
    prepare query from @s;
    execute query;
    deallocate prepare query;
end$$

delimiter ;
```