CS5363: DBMS 2
Lab 3 Question Paper (Set 1)

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 9 PM. Write your name, roll and the question set at the top of the text file.

Total Marks: 20 **Time:** 7PM to 9PM

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Q1. Consider the following table: **Projects**

s_id	s_name	dept_name	f_id	f_name	salary	post
00128	Zhang	Comp. Sci.	45565	Katz	75000	Permanent
12345	Shankar	Comp. Sci.	10101	Srinivasan	30000	Permanent
23121	Chavez	Finance	76543	Singh	80000	Permanent
44553	Peltier	Physics	22222	Einstein	95000	Permanent
45678	Levy	Physics	22222	Einstein	95000	Permanent
76543	Brown	Comp. Sci.	45565	Katz	75000	Permanent
76653	Aoi	Elec. Eng.	98345	Kim	80000	Permanent
98765	Bourikas	Elec. Eng.	98345	Kim	80000	Permanent
98988	Tanaka	Biology	76766	Crick	72000	Permanent

The table has some redundant values. You have to decompose the table into two tables to remove redundancy.

(a) Write SQL to create both the tables (Student and Faculty) with proper primary key and foreign key.

(b) Write a stored procedure to read records from Projects and insert them into the two newly created tables. Note that you have to read each row from the Projects table only once. Obviously the same record should not be entered twice in a table. The table Projects must be dropped automatically when all the records are distributed among Student and Faculty.

***Use the Projects.sql script mailed to you for generating the table Projects whenever required*.**

Q2. Consider the ***instructor*** table from university database:

You have to maintain a log record for all the operations (***insert, delete, update***) performed in the above mentioned table. The purpose of these log records is to keep track of all the updates done in the table based on date/time and the user who did this. Such tracking is important for security purpose.

Create a table called **LOG_RECORD** as follows:

> **log_id** (int), **operation** (varchar), **table_name** (varchar**), row_id** (varchar), **done_at** (datetime), **done_by** (varchar)

Description:

- **log_ID**: A unique ID (primary key) for each row in **LOG_RECORD**. Make this column as auto incremented.
- **operation**: it means *INSERT, UPDATE* or *DELETE*.
- **table_name**: the name of the table. This should always be "***instructor".***
- **row_id**: The key of the tuple on which the operation performed. Here tuple means the tuple of the table (***instructor*** or ***department***) on which the operation has been performed.
- **done_at**: The date and time on which the operation has been performed.
- **done_by**: The database user who performed the operation.

For example, if a database user (say "User1") inserts a tuple in ***instructor*** having ID has 500. Then the following tuple should be inserted automatically in **LOG_RECORD**

Log_ID	***operation***	***table_name***	***row_ID***	***done_at***	***done_by***
1	INSERT	instructor	500	02/04/2016 11:44:00	User1

Similarly, if the same user modifies a record from ***instructor*** having ID as 3455. Then a tuple has to insert in **LOG_RECORD** as:

Log_ID	**operation**	**table_name**	**row_ID**	**done_at**	**done_by**
1	INSERT	FACULTY	500	02/04/2016 11:44:00	User1
2	UPDATE	FACULTY	3455	02/04/2016 12:03:00	User1