DBMS LAB Experiment

(Experiment Details should contain: Learning Objective, Theory, Coding)
(Obtained output should contain only screenshots of your coding and your database name)
(Database Name should be like DB then ExperimentNo_Your ID *(DB3_5707)*)

Experiment 1: Introduction to DBMS, Types and SQL
SQL Queries:

- ➢ Create Database
- ➢ Show Database
- ➢ Create table (with primary key)
- ➢ Show table's values
- ➢ Show date type column and show only month from that column
- ➢ Show metadata of table

Experiment 2: Introduction to ER modeling and related SQL
SQL queries:

- ➢ Create another table (with foreign key references to the previously created table)
- ➢ Insert one record
- ➢ Update any column value
- ➢ Delete one records

Experiment 3: Relational Algebra and SQL Queries
Convert the relational algebra to SQL Queries of the theory slide(Relational algebra)

Experiment 4: Normalization Forms with SQL
SQL Queries: Normalize the following table upto 3 NF then make tables into your database.

Stud ID	Stud Name	Semester	Sub ID	Sub Name	Prof Initial	Prof Name	Teaching Experience
101	Jacob	2-1	311	Database	DS	Disha	1.5
101	Jacob	2-1	313	OOP	MZ	Md Zayan	3
102	Robert	1-1	114	Math-1	DS	Disha	1.5
103	Alice	4-1	412	IOT	RKS	Rakash	7
103	Alice	4-1	313	OOP	MLR	Md Lutfar	4.5
104	Bob	1-1	102	English	RR	Rakib Roy	5

Experiment 5: DDL & DML
SQL Queries:

- ➢ Create database named “DB4_ID”
- ➢ Create any table
- ➢ Insert multiple records together
- ➢ Delete multiple records
- ➢ Update multiple records
- ➢ Rename Table
- ➢ Change column data type
- ➢ Add Column to table
- ➢ Delete column from table
- ➢ Truncate table
- ➢ Drop table
- ➢ Drop database

You can create the following table also or whatever table you want.
Account Table

ACCID	Name	Semester	Dues
7001	A	1-1	2500.42
7002	B	2-2	3500.00
7003	C	2-1	3200.51
7004	D	2-2	2300.21
7005	E	2-1	100.00
7006	F	2-1	0.00
7007	G	1-1	500.00
7008	H	2-2	4100.85

Experiment 6: CRUD Operations
SQL Queries:

- ➢ Create table with different data types (int, double(size, d),float(size,d), varchar, char, date, timestamp)
- ➢ Find total of any column
- ➢ Update each row of any column
- ➢ Delete records between any two years

Experiment 7:
Joining Queries see in week 5 (join Lab task)

Experiment 8:
Storage, Indexing Techniques and Transaction Processing & Security Issues
SQL Queries:

- ➢ Show three TCL commands (Commit, Rollback and savepoint) incorporating any table

Student Table

StudentID	Mark1	Mark2	Mark3	total_mark	CGPA
1	82	90	70		
2	50	86	90		
3	40	70	60		
4	66	75	45		

student _log

log_id	Operation	log_timestamp
1	insert	
2	update	

- Insert the values into total_mark and CGPA column
- Update data in student_log table when any row inserted into student table like row 1
- Perform update operation on Student table that will trigger to insert a row into student_log table like row 2

- After setting the trigger, start transaction then run query for operations(insert, update, delete) , after then perform commit, rollback and rollback to savepoint.

(note: log_timestamp data also inserted using trigger)

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