PRACTICAL : 1

AIM : Explore core concepts of DBMS and SQL, and perform operations using various SQL command categories such as DDL, DML, DCL, and TCL.

TASK 0 : Understand the Scenario: College Student Record System

Task 0

1. DDL – Data Definition Language

Task: Create a table to store student data

```
CREATE TABLE Students (
    StudentID INT PRIMARY KEY,
    Name VARCHAR(100),
    Course VARCHAR(50),
    Marks INT
);
```

Task: Add a new column for Email
ALTER TABLE Students ADD Email VARCHAR(100);

Task: Modify Marks to support decimal values
ALTER TABLE Students MODIFY Marks FLOAT;

Task: Rename the table
RENAME TABLE Students TO StudentRecords;

Task: Removes **all rows** from a table student quickly, but **keeps the table structure**.
TRUNCATE TABLE Students;

Task: Delete table student from the database permanently.
DROP TABLE Students;

2. DML – Data Manipulation Language and TCL - Transaction

Control Language Command

Task: Add, update, delete, and retrieve data
Task: Insert records into student record table
INSERT INTO StudentRecords (StudentID, Name, Course, Marks, Email) VALUES
(1, 'Akshita Patel', 'BSc IT', 85.5, 'akshita@gmail.com');

Task: Update a record into student record to marks 90 where studentID 1.
UPDATE StudentRecords
SET Marks = 90
WHERE StudentID = 1;

Task: Delete a record from the table studentrecord where student ID is 1.
DELETE FROM StudentRecords
WHERE StudentID = 1;

Task: Display the record of studentrecord Table.
SELECT * FROM StudentRecords;

Task: Insert records into student record table
INSERT INTO StudentRecords (StudentID, Name, Course, Marks)
VALUES (101, 'Akshita Patel', 'BSc IT', 78);
Task: Set a savepoint after insert
SAVEPOINT sp_insert;

Task: Update a record into student record to marks 90 where studentID 101.
UPDATE StudentRecords
SET Marks = 95
WHERE StudentID = 101;

Task: Rollback to savepoint
ROLLBACK TO sp_insert;

Task: Commit the correct data
COMMIT;
Task: Display the record
SELECT * FROM StudentRecords;

3. DCL – Data Control Language

Task: Create users and manage permissions

```
-- Create a user
CREATE USER 'librarian_user'@'localhost' IDENTIFIED BY 'lib123';

-- Grant permissions
GRANT SELECT, INSERT, UPDATE ON LibraryDB.LibraryBooks TO
'librarian_user'@'localhost';

-- Revoke permissions
REVOKE UPDATE ON LibraryDB.LibraryBooks FROM 'librarian_user'@'localhost';
```

4. TCL (Transaction Control Language)

1. COMMIT

- **Purpose**: Saves all changes made by the current transaction permanently to the database.
- **Syntax**:

```
COMMIT;
```

2. ROLLBACK

- **Purpose**: Reverts all changes made by the current transaction.
- **Syntax**:

```
ROLLBACK;
```

3. SAVEPOINT

- **Purpose**: Sets a point within a transaction to which you can later roll back.
- **Syntax**:

```
SAVEPOINT savepoint_name;
```

TASK 1

Prerequisite Steps before Task 1

Step 1 : Use tee PATH\TO\FOLDER\FILENAME.txt in MySQL CLI to start saving all commands and outputs of the current session into a file until stopped with notee or else session is closed.

```
24012011142_Vatsal [(none)] Sat Aug 23 11:51:41 2025
> tee C:\Users\Vatsal\Desktop\Sem3\DBMS\Practical-1\Tasks.txt
Logging to file 'C:\Users\Vatsal\Desktop\Sem3\DBMS\Practical-1\Tasks.txt'
```

- **SYNTAX : tee PATH\TO\FOLDER\FILENAME.txt**
- tee in MySQL Command-Line Client enables logging of all commands and their results into a file during the same session. From this point onward, all entered commands and their outputs will be written to the specified file.
- This is useful for: Record keeping, Creating reports of SQL execution, Debugging query results later. The log continues until you turn it off with "notee" Command

Step 2 : Changing the MySQL Prompt

```
mysql> PROMPT 24012011142_Vatsal [\d] \D \n>
PROMPT set to '24012011142_Vatsal [\d] \D \n> '
24012011142_Vatsal [(none)] Sat Aug 23 11:51:41 2025
>

24012011142_Vatsal [(none)] Sat Aug 23 11:51:41 2025
> tee C:\Users\Vatsal\Desktop\Sem3\DBMS\Practical-1\Tasks.txt
Logging to file 'C:\Users\Vatsal\Desktop\Sem3\DBMS\Practical-1\Tasks.txt'
```

PROMPT changes how the MySQL CLI prompt looks.

Components:

- FULLENROLLMENT_FULLNAME → Custom label or project name
- [\d] → Shows the current database in square brackets
- \D → Shows the current date

- \n → Inserts a newline before
- > → The actual command prompt symbol

Step 3 : Create a new Database

```
24012011142_Vatsal [(none)] Sat Aug 23 12:02:12 2025
> CREATE DATABASE Practical_1_24012011142;
Query OK, 1 row affected (0.01 sec)
```

Step 4 : Select a Database

```
24012011142_Vatsal [(none)] Sat Aug 23 12:02:24 2025
> USE Practical_1_24012011142;
Database changed
```

Create a table ACCOUNT_FULLENROLLMENTNO

Column name	Data Type	Size
acc_no	varchar2	5
Name	varchar2	30
City	varchar2	20
Balance	Number	10,2
loan_taken	varchar2	5

Insert the following records in ACCOUNT_FULLENROLLMENTNO table

acc_no	Name	City	Balance	loan_taken
A001	Patel Jigar	Mehsana	50000	YES
A002	Patel Ramesh	Mehsana	50000	YES
A003	Dave Hardik	Ahmedabad	75000	NO
A004	Soni Hetal	Ahmedabad	100000	NO
A005	Sony Atul	Vadodara	100000	YES

Query with Output :

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:02:32 2025
> CREATE TABLE ACCOUNT_24012011142 (
    ->     acc_no VARCHAR(5) PRIMARY KEY,
    ->     Name VARCHAR(30),
    ->     City VARCHAR(20),
    ->     Balance DECIMAL(10, 2),
    ->     loan_taken VARCHAR(5)
    -> );
Query OK, 0 rows affected (0.02 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:02:38 2025
> DESC ACCOUNT_24012011142;
+------------+---------------+------+-----+---------+-------+
| Field      | Type          | Null | Key | Default | Extra |
+------------+---------------+------+-----+---------+-------+
| acc_no     | varchar(5)    | NO   | PRI | NULL    |       |
| Name       | varchar(30)   | YES  |     | NULL    |       |
| City       | varchar(20)   | YES  |     | NULL    |       |
| Balance    | decimal(10,2) | YES  |     | NULL    |       |
| loan_taken | varchar(5)    | YES  |     | NULL    |       |
+------------+---------------+------+-----+---------+-------+
5 rows in set (0.01 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:02:42 2025
> INSERT INTO ACCOUNT_24012011142 (acc_no, Name, City, Balance, loan_taken) VALUES
    -> ('A001', 'Patel Jigar', 'Mehsana', 50000, 'YES'),
    -> ('A002', 'Patel Ramesh', 'Mehsana', 50000, 'YES'),
    -> ('A003', 'Dave Hardik', 'Ahmedabad', 75000, 'NO'),
    -> ('A004', 'Soni Hetal', 'Ahmedabad', 100000, 'NO'),
    -> ('A005', 'Sony Atul', 'Vadodara', 100000, 'YES');
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:02:48 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+--------------+-----------+-----------+------------+
| acc_no | Name         | City      | Balance   | loan_taken |
+--------+--------------+-----------+-----------+------------+
| A001   | Patel Jigar  | Mehsana   |  50000.00 | YES        |
| A002   | Patel Ramesh | Mehsana   |  50000.00 | YES        |
| A003   | Dave Hardik  | Ahmedabad |  75000.00 | NO         |
| A004   | Soni Hetal   | Ahmedabad | 100000.00 | NO         |
| A005   | Sony Atul    | Vadodara  | 100000.00 | YES        |
+--------+--------------+-----------+-----------+------------+
5 rows in set (0.01 sec)
```

Create a table LOAN_FULLENROLLMENTNO

Column Name	Data Type	Size
loan_no	varchar2	5
acc_no	varchar2	5
loan_amt	Number	10,2
interest_rate	Number	5,2
loan_date	Date	
remaining_loan	Number	10,2

Insert the following records in LOAN_FULLENROLLMENTNO table

Loan_no	Acc_no	Loan_amt	Interest_rate	Loan_date	Remaining_loan
L001	A001	100000	7	1-jan-04	75000
L002	A002	300000	9	18-may-04	150000
L003	A005	500000	11	15-june-04	300000

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:02:53 2025
> CREATE TABLE LOAN_24012011142 (
    ->     loan_no VARCHAR(5) PRIMARY KEY,
    ->     acc_no VARCHAR(5),
    ->     loan_amt DECIMAL(10, 2),
    ->     interest_rate DECIMAL(5, 2),
    ->     loan_date DATE,
    ->     remaining_loan DECIMAL(10, 2)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:02:58 2025
> DESC LOAN_24012011142;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| loan_no        | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no         | varchar(5)    | YES  |     | NULL    |       |
| loan_amt       | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate  | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date      | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:02 2025
> INSERT INTO LOAN_24012011142 (loan_no, acc_no, loan_amt, interest_rate, loan_date, remaining_loan) VALUES
    -> ('L001', 'A001', 100000, 7, '2004-01-01', 75000),
    -> ('L002', 'A002', 300000, 9, '2004-05-18', 150000),
    -> ('L003', 'A005', 500000, 11, '2004-06-15', 300000);
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:08 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan |
+---------+--------+-----------+---------------+------------+----------------+
| L001    | A001   | 100000.00 |          7.00 | 2004-01-01 |       75000.00 |
| L002    | A002   | 300000.00 |          9.00 | 2004-05-18 |      150000.00 |
| L003    | A005   | 500000.00 |         11.00 | 2004-06-15 |      300000.00 |
+---------+--------+-----------+---------------+------------+----------------+
3 rows in set (0.00 sec)
```

Create a table INSTALLMENT_FULLENROLLMENTNO

Column Name	Data Type	Size
loan_no	varchar2	5
inst_no	varchar2	5
inst_Date	Date	
Amount	Number	10,2

Insert the following records in INSTALLMENT_FULLENROLLMENTNO table

Loan_no	Inst_no	Inst_Date	Amount
L001	I001	2-Feb-04	15000
L002	I002	18-June-04	20000
L003	I003	15-July-04	20000

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:15 2025
> CREATE TABLE INSTALLMENT_24012011142 (
    ->     loan_no VARCHAR(5),
    ->     installment_no VARCHAR(5) PRIMARY KEY,
    ->     installment_date DATE,
    ->     Amount DECIMAL(10, 2)
    -> );
Query OK, 0 rows affected (0.03 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:21 2025
> DESC INSTALLMENT_24012011142;
+------------------+---------------+------+-----+---------+-------+
| Field            | Type          | Null | Key | Default | Extra |
+------------------+---------------+------+-----+---------+-------+
| loan_no          | varchar(5)    | YES  |     | NULL    |       |
| installment_no   | varchar(5)    | NO   | PRI | NULL    |       |
| installment_date | date          | YES  |     | NULL    |       |
| Amount           | decimal(10,2) | YES  |     | NULL    |       |
+------------------+---------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:26 2025
> INSERT INTO INSTALLMENT_24012011142 (loan_no, installment_no, installment_date, Amount) VALUES
    -> ('L001', 'I001', '2004-02-02', 15000),
    -> ('L002', 'I002', '2004-06-18', 20000),
    -> ('L003', 'I003', '2004-07-15', 20000);
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:31 2025
> SELECT * FROM INSTALLMENT_24012011142;
+---------+---------------+------------------+----------+
| loan_no | installment_no | installment_date | Amount   |
+---------+---------------+------------------+----------+
| L001    | I001           | 2004-02-02       | 15000.00 |
| L002    | I002           | 2004-06-18       | 20000.00 |
| L003    | I003           | 2004-07-15       | 20000.00 |
+---------+---------------+------------------+----------+
3 rows in set (0.00 sec)
```

Answer following Queries based on above 3 tables.

1. Display all rows and all columns of table Installment.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:36 2025
> SELECT * FROM INSTALLMENT_24012011142;
+---------+---------------+------------------+----------+
| loan_no | installment_no | installment_date | Amount   |
+---------+---------------+------------------+----------+
| L001    | I001           | 2004-02-02       | 15000.00 |
| L002    | I002           | 2004-06-18       | 20000.00 |
| L003    | I003           | 2004-07-15       | 20000.00 |
+---------+---------------+------------------+----------+
3 rows in set (0.00 sec)
```

2. Display all rows and selected columns of table Installment.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:41 2025
> SELECT loan_no, installment_no, Amount FROM INSTALLMENT_24012011142;
+---------+----------------+----------+
| loan_no | installment_no | Amount   |
+---------+----------------+----------+
| L001    | I001           | 15000.00 |
| L002    | I002           | 20000.00 |
| L003    | I003           | 20000.00 |
+---------+----------------+----------+
3 rows in set (0.00 sec)
```

3. Display selected rows and selected columns of table Account.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:48 2025
> SELECT acc_no, Name FROM ACCOUNT_24012011142 WHERE City = 'Ahmedabad';
+--------+-------------+
| acc_no | Name        |
+--------+-------------+
| A003   | Dave Hardik |
| A004   | Soni Hetal  |
+--------+-------------+
2 rows in set (0.01 sec)
```

4. Display selected rows and all columns of table loan.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:53 2025
> SELECT * FROM LOAN_24012011142 WHERE loan_amt > 100000;
+---------+--------+-----------+---------------+------------+----------------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan |
+---------+--------+-----------+---------------+------------+----------------+
| L002    | A002   | 300000.00 |          9.00 | 2004-05-18 |      150000.00 |
| L003    | A005   | 500000.00 |         11.00 | 2004-06-15 |      300000.00 |
+---------+--------+-----------+---------------+------------+----------------+
2 rows in set (0.01 sec)
```

5. Show the structure of the table loan, account and installment.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:03:57 2025
> DESCRIBE ACCOUNT_24012011142;
+------------+---------------+------+-----+---------+-------+
| Field      | Type          | Null | Key | Default | Extra |
+------------+---------------+------+-----+---------+-------+
| acc_no     | varchar(5)    | NO   | PRI | NULL    |       |
| Name       | varchar(30)   | YES  |     | NULL    |       |
| City       | varchar(20)   | YES  |     | NULL    |       |
| Balance    | decimal(10,2) | YES  |     | NULL    |       |
| loan_taken | varchar(5)    | YES  |     | NULL    |       |
+------------+---------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:03 2025
> DESCRIBE LOAN_24012011142;
+---------------+---------------+------+-----+---------+-------+
| Field         | Type          | Null | Key | Default | Extra |
+---------------+---------------+------+-----+---------+-------+
| loan_no       | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no        | varchar(5)    | YES  |     | NULL    |       |
| loan_amt      | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date     | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
+---------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:03 2025
> DESCRIBE INSTALLMENT_24012011142;
+-----------------+---------------+------+-----+---------+-------+
| Field           | Type          | Null | Key | Default | Extra |
+-----------------+---------------+------+-----+---------+-------+
| loan_no         | varchar(5)    | YES  |     | NULL    |       |
| installment_no  | varchar(5)    | NO   | PRI | NULL    |       |
| installment_date | date          | YES  |     | NULL    |       |
| Amount          | decimal(10,2) | YES  |     | NULL    |       |
+-----------------+---------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

6. Change the name ‘Patel Jigar’ to ‘Patel Hiren’ in Account Table.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:11 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+--------------+-----------+-----------+------------+
| acc_no | Name         | City      | Balance   | loan_taken |
+--------+--------------+-----------+-----------+------------+
| A001   | Patel Jigar  | Mehsana   |  50000.00 | YES        |
| A002   | Patel Ramesh | Mehsana   |  50000.00 | YES        |
| A003   | Dave Hardik  | Ahmedabad |  75000.00 | NO         |
| A004   | Soni Hetal   | Ahmedabad | 100000.00 | NO         |
| A005   | Sony Atul    | Vadodara  | 100000.00 | YES        |
+--------+--------------+-----------+-----------+------------+
5 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:20 2025
> UPDATE ACCOUNT_24012011142 SET Name = 'Patel Hiren' WHERE Name = 'Patel Jigar';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:29 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+--------------+-----------+-----------+------------+
| acc_no | Name         | City      | Balance   | loan_taken |
+--------+--------------+-----------+-----------+------------+
| A001   | Patel Hiren  | Mehsana   |  50000.00 | YES        |
| A002   | Patel Ramesh | Mehsana   |  50000.00 | YES        |
| A003   | Dave Hardik  | Ahmedabad |  75000.00 | NO         |
| A004   | Soni Hetal   | Ahmedabad | 100000.00 | NO         |
| A005   | Sony Atul    | Vadodara  | 100000.00 | YES        |
+--------+--------------+-----------+-----------+------------+
5 rows in set (0.00 sec)
```

7. Change the name and city where account number is A005. (new name = ‘Kothari Nehal’ and new city = ‘Kherva’).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:36 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+--------------+-----------+-----------+------------+
| acc_no | Name         | City      | Balance   | loan_taken |
+--------+--------------+-----------+-----------+------------+
| A001   | Patel Hiren  | Mehsana   |  50000.00 | YES        |
| A002   | Patel Ramesh | Mehsana   |  50000.00 | YES        |
| A003   | Dave Hardik  | Ahmedabad |  75000.00 | NO         |
| A004   | Soni Hetal   | Ahmedabad | 100000.00 | NO         |
| A005   | Sony Atul    | Vadodara  | 100000.00 | YES        |
+--------+--------------+-----------+-----------+------------+
5 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:49 2025
> UPDATE ACCOUNT_24012011142 SET Name = 'Kothari Nehal' , City = 'Kherva' WHERE acc_no = 'A005';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:04:57 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+---------------+-----------+-----------+------------+
| acc_no | Name          | City      | Balance   | loan_taken |
+--------+---------------+-----------+-----------+------------+
| A001   | Patel Hiren   | Mehsana   |  50000.00 | YES        |
| A002   | Patel Ramesh  | Mehsana   |  50000.00 | YES        |
| A003   | Dave Hardik   | Ahmedabad |  75000.00 | NO         |
| A004   | Soni Hetal    | Ahmedabad | 100000.00 | NO         |
| A005   | Kothari Nehal | Kherva    | 100000.00 | YES        |
+--------+---------------+-----------+-----------+------------+
5 rows in set (0.00 sec)
```

8. Display only those records where loan taken status is ‘YES’.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:05 2025
> SELECT * FROM ACCOUNT_24012011142 WHERE loan_taken = 'YES';
+--------+---------------+---------+-----------+------------+
| acc_no | Name          | City    | Balance   | loan_taken |
+--------+---------------+---------+-----------+------------+
| A001   | Patel Hiren   | Mehsana |  50000.00 | YES        |
| A002   | Patel Ramesh  | Mehsana |  50000.00 | YES        |
| A005   | Kothari Nehal | Kherva  | 100000.00 | YES        |
+--------+---------------+---------+-----------+------------+
3 rows in set (0.00 sec)
```

9. Add the new column (address varchar2 (20)) into table ACCOUNT.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:16 2025
> DESCRIBE ACCOUNT_24012011142;
+------------+---------------+------+-----+---------+-------+
| Field      | Type          | Null | Key | Default | Extra |
+------------+---------------+------+-----+---------+-------+
| acc_no     | varchar(5)    | NO   | PRI | NULL    |       |
| Name       | varchar(30)   | YES  |     | NULL    |       |
| City       | varchar(20)   | YES  |     | NULL    |       |
| Balance    | decimal(10,2) | YES  |     | NULL    |       |
| loan_taken | varchar(5)    | YES  |     | NULL    |       |
+------------+---------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:21 2025
> ALTER TABLE ACCOUNT_24012011142 ADD COLUMN address VARCHAR(20);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:29 2025
> DESCRIBE ACCOUNT_24012011142;
+------------+---------------+------+-----+---------+-------+
| Field      | Type          | Null | Key | Default | Extra |
+------------+---------------+------+-----+---------+-------+
| acc_no     | varchar(5)    | NO   | PRI | NULL    |       |
| Name       | varchar(30)   | YES  |     | NULL    |       |
| City       | varchar(20)   | YES  |     | NULL    |       |
| Balance    | decimal(10,2) | YES  |     | NULL    |       |
| loan_taken | varchar(5)    | YES  |     | NULL    |       |
| address    | varchar(20)   | YES  |     | NULL    |       |
+------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

10.Modify the structure of table LOAN by adding one column credit_no varchar2 (4) (Loan table).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:33 2025
> DESC LOAN_24012011142;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| loan_no        | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no         | varchar(5)    | YES  |     | NULL    |       |
| loan_amt       | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate  | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date      | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:38 2025
> ALTER TABLE LOAN_24012011142 ADD COLUMN credit_no VARCHAR(4);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:42 2025
> DESC LOAN_24012011142;
+---------------+---------------+------+-----+---------+-------+
| Field         | Type          | Null | Key | Default | Extra |
+---------------+---------------+------+-----+---------+-------+
| loan_no       | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no        | varchar(5)    | YES  |     | NULL    |       |
| loan_amt      | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date     | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
| credit_no     | varchar(4)    | YES  |     | NULL    |       |
+---------------+---------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

11. Create another table ACCOUNT_TEMP having columns (acc_no, name, balance) from table ACCOUNT.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:44:06 2025
> DESC ACCOUNT_24012011142;
+-----------+---------------+------+-----+---------+-------+
| Field     | Type          | Null | Key | Default | Extra |
+-----------+---------------+------+-----+---------+-------+
| acc_no    | varchar(5)    | NO   | PRI | NULL    |       |
| Name      | varchar(30)   | YES  |     | NULL    |       |
| City      | varchar(20)   | YES  |     | NULL    |       |
| Balance   | decimal(10,2) | YES  |     | NULL    |       |
| loan_taken | varchar(5)   | YES  |     | NULL    |       |
| address   | varchar(20)   | YES  |     | NULL    |       |
+-----------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:44:52 2025
> CREATE TABLE ACCOUNT_TEMP AS SELECT acc_no, Name, Balance FROM ACCOUNT_24012011142;
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:44:59 2025
> DESC ACCOUNT_TEMP;
+---------+---------------+------+-----+---------+-------+
| Field   | Type          | Null | Key | Default | Extra |
+---------+---------------+------+-----+---------+-------+
| acc_no  | varchar(5)    | NO   |     | NULL    |       |
| Name    | varchar(30)   | YES  |     | NULL    |       |
| Balance | decimal(10,2) | YES  |     | NULL    |       |
+---------+---------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

12.Create another table LOAN_TEMP (loan_no, Acc_no, loan_amt, loan_date) from The table LOAN.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:42 2025
> DESC LOAN_24012011142;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| loan_no        | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no         | varchar(5)    | YES  |     | NULL    |       |
| loan_amt       | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate  | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date      | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
| credit_no      | varchar(4)    | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:05:55 2025
> CREATE TABLE LOAN_TEMP AS SELECT loan_no, acc_no, loan_amt, loan_date FROM LOAN_24012011142;
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:06:00 2025
> DESC LOAN_TEMP;
+-----------+---------------+------+-----+---------+-------+
| Field     | Type          | Null | Key | Default | Extra |
+-----------+---------------+------+-----+---------+-------+
| loan_no   | varchar(5)    | NO   |     | NULL    |       |
| acc_no    | varchar(5)    | YES  |     | NULL    |       |
| loan_amt  | decimal(10,2) | YES  |     | NULL    |       |
| loan_date | date          | YES  |     | NULL    |       |
+-----------+---------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

13.Create another table TRANS_TEMP by change the column name acc_no to account_no from LOAN_TEMP.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:06:00 2025
> DESC LOAN_TEMP;
+-----------+---------------+------+-----+---------+-------+
| Field     | Type          | Null | Key | Default | Extra |
+-----------+---------------+------+-----+---------+-------+
| loan_no   | varchar(5)    | NO   |     | NULL    |       |
| acc_no    | varchar(5)    | YES  |     | NULL    |       |
| loan_amt  | decimal(10,2) | YES  |     | NULL    |       |
| loan_date | date          | YES  |     | NULL    |       |
+-----------+---------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:56:07 2025
> CREATE TABLE TRANS_TEMP AS SELECT loan_no, acc_no AS account_number, loan_amt, loan_date FROM LOAN_TEMP;
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:56:09 2025
> DESC TRANS_TEMP;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| loan_no        | varchar(5)    | NO   |     | NULL    |       |
| account_number | varchar(7)    | YES  |     | NULL    |       |
| loan_amt       | decimal(10,2) | YES  |     | NULL    |       |
| loan_date      | date          | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

14.Increase the size 5 to 7 of column acc_no (Loan table).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:06:18 2025
> DESC LOAN_24012011142;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| loan_no        | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no         | varchar(5)    | YES  |     | NULL    |       |
| loan_amt       | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate  | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date      | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
| credit_no      | varchar(4)    | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:06:45 2025
> ALTER TABLE LOAN_24012011142 MODIFY acc_no VARCHAR(7);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:06:57 2025
> DESC LOAN_24012011142;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| loan_no        | varchar(5)    | NO   | PRI | NULL    |       |
| acc_no         | varchar(7)    | YES  |     | NULL    |       |
| loan_amt       | decimal(10,2) | YES  |     | NULL    |       |
| interest_rate  | decimal(5,2)  | YES  |     | NULL    |       |
| loan_date      | date          | YES  |     | NULL    |       |
| remaining_loan | decimal(10,2) | YES  |     | NULL    |       |
| credit_no      | varchar(4)    | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

15.Delete the records whose account no is A004.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:01 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+---------------+-----------+-----------+------------+---------+
| acc_no | Name          | City      | Balance   | loan_taken | address |
+--------+---------------+-----------+-----------+------------+---------+
| A001   | Patel Hiren   | Mehsana   |  50000.00 | YES        | NULL    |
| A002   | Patel Ramesh  | Mehsana   |  50000.00 | YES        | NULL    |
| A003   | Dave Hardik   | Ahmedabad |  75000.00 | NO         | NULL    |
| A004   | Soni Hetal    | Ahmedabad | 100000.00 | NO         | NULL    |
| A005   | Kothari Nehal | Kherva    | 100000.00 | YES        | NULL    |
+--------+---------------+-----------+-----------+------------+---------+
5 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:08 2025
> DELETE FROM ACCOUNT_24012011142 WHERE acc_no = 'A004';
Query OK, 1 row affected (0.01 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:17 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+---------------+-----------+-----------+------------+---------+
| acc_no | Name          | City      | Balance   | loan_taken | address |
+--------+---------------+-----------+-----------+------------+---------+
| A001   | Patel Hiren   | Mehsana   |  50000.00 | YES        | NULL    |
| A002   | Patel Ramesh  | Mehsana   |  50000.00 | YES        | NULL    |
| A003   | Dave Hardik   | Ahmedabad |  75000.00 | NO         | NULL    |
| A005   | Kothari Nehal | Kherva    | 100000.00 | YES        | NULL    |
+--------+---------------+-----------+-----------+------------+---------+
4 rows in set (0.00 sec)
```

16.For each loan holders Increase the interest rate by 2% (Loan table).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:25 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 100000.00 |          7.00 | 2004-01-01 |       75000.00 | NULL      |
| L002    | A002   | 300000.00 |          9.00 | 2004-05-18 |      150000.00 | NULL      |
| L003    | A005   | 500000.00 |         11.00 | 2004-06-15 |      300000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
3 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:31 2025
> UPDATE LOAN_24012011142 SET interest_rate = interest_rate + 2;
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3  Changed: 3  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:37 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 100000.00 |          9.00 | 2004-01-01 |       75000.00 | NULL      |
| L002    | A002   | 300000.00 |         11.00 | 2004-05-18 |      150000.00 | NULL      |
| L003    | A005   | 500000.00 |         13.00 | 2004-06-15 |      300000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
3 rows in set (0.00 sec)
```

17.Display only those records where loan holder taken a loan in month of January (Loan table).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:43 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 100000.00 |          9.00 | 2004-01-01 |       75000.00 | NULL      |
| L002    | A002   | 300000.00 |         11.00 | 2004-05-18 |      150000.00 | NULL      |
| L003    | A005   | 500000.00 |         13.00 | 2004-06-15 |      300000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
3 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:47 2025
> SELECT * FROM LOAN_24012011142 WHERE MONTH(loan_date) = 1;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 100000.00 |          9.00 | 2004-01-01 |       75000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
1 row in set (0.00 sec)
```

18.Change the Inst_Date ‘2-Feb-21’ to ’3-Mar-22’.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:52 2025
> SELECT * FROM INSTALLMENT_24012011142;
+---------+----------------+------------------+----------+
| loan_no | installment_no | installment_date | Amount   |
+---------+----------------+------------------+----------+
| L001    | I001           | 2004-02-02       | 15000.00 |
| L002    | I002           | 2004-06-18       | 20000.00 |
| L003    | I003           | 2004-07-15       | 20000.00 |
+---------+----------------+------------------+----------+
3 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:07:58 2025
> UPDATE INSTALLMENT_24012011142 SET installment_date = '2022-03-03' WHERE installment_date = '2021-02-02';
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0  Changed: 0  Warnings: 0
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:04 2025
> SELECT * FROM INSTALLMENT_24012011142;
+---------+----------------+------------------+----------+
| loan_no | installment_no | installment_date | Amount   |
+---------+----------------+------------------+----------+
| L001    | I001           | 2004-02-02       | 15000.00 |
| L002    | I002           | 2004-06-18       | 20000.00 |
| L003    | I003           | 2004-07-15       | 20000.00 |
+---------+----------------+------------------+----------+
3 rows in set (0.00 sec)
```

19.Display the Loan amount*2 of table LOAN.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:10 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 100000.00 |          9.00 | 2004-01-01 |       75000.00 | NULL      |
| L002    | A002   | 300000.00 |         11.00 | 2004-05-18 |      150000.00 | NULL      |
| L003    | A005   | 500000.00 |         13.00 | 2004-06-15 |      300000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
3 rows in set (0.00 sec)
```

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:14 2025
> SELECT loan_amt * 2 AS double_loan_amt FROM LOAN_24012011142;
+-----------------+
| double_loan_amt |
+-----------------+
|       200000.00 |
|       600000.00 |
|      1000000.00 |
+-----------------+
3 rows in set (0.00 sec)
```

20.Change the loan_amt 100000 to 150000 where loan number is L001. (Loan table).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:19 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 100000.00 |          9.00 | 2004-01-01 |       75000.00 | NULL      |
| L002    | A002   | 300000.00 |         11.00 | 2004-05-18 |      150000.00 | NULL      |
| L003    | A005   | 500000.00 |         13.00 | 2004-06-15 |      300000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
3 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:25 2025
> UPDATE LOAN_24012011142 SET loan_amt = 150000 WHERE loan_no = 'L001';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:29 2025
> SELECT * FROM LOAN_24012011142;
+---------+--------+-----------+---------------+------------+----------------+-----------+
| loan_no | acc_no | loan_amt  | interest_rate | loan_date  | remaining_loan | credit_no |
+---------+--------+-----------+---------------+------------+----------------+-----------+
| L001    | A001   | 150000.00 |          9.00 | 2004-01-01 |       75000.00 | NULL      |
| L002    | A002   | 300000.00 |         11.00 | 2004-05-18 |      150000.00 | NULL      |
| L003    | A005   | 500000.00 |         13.00 | 2004-06-15 |      300000.00 | NULL      |
+---------+--------+-----------+---------------+------------+----------------+-----------+
3 rows in set (0.00 sec)
```

21.Display loan_no, amount of Installment table by date wise.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:34 2025
> SELECT * FROM INSTALLMENT_24012011142;
+---------+----------------+------------------+----------+
| loan_no | installment_no | installment_date | Amount   |
+---------+----------------+------------------+----------+
| L001    | I001           | 2004-02-02       | 15000.00 |
| L002    | I002           | 2004-06-18       | 20000.00 |
| L003    | I003           | 2004-07-15       | 20000.00 |
+---------+----------------+------------------+----------+
3 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:39 2025
> SELECT loan_no, Amount, installment_date FROM INSTALLMENT_24012011142 ORDER BY installment_date;
+---------+----------+------------------+
| loan_no | Amount   | installment_date |
+---------+----------+------------------+
| L001    | 15000.00 | 2004-02-02       |
| L002    | 20000.00 | 2004-06-18       |
| L003    | 20000.00 | 2004-07-15       |
+---------+----------+------------------+
3 rows in set (0.00 sec)
```

22.Select all the records of account table in descending order (account number wise).

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:45 2025
> SELECT * FROM ACCOUNT_24012011142;
+--------+--------------+-----------+-----------+------------+---------+
| acc_no | Name         | City      | Balance   | loan_taken | address |
+--------+--------------+-----------+-----------+------------+---------+
| A001   | Patel Hiren  | Mehsana   |  50000.00 | YES        | NULL    |
| A002   | Patel Ramesh | Mehsana   |  50000.00 | YES        | NULL    |
| A003   | Dave Hardik  | Ahmedabad |  75000.00 | NO         | NULL    |
| A005   | Kothari Nehal | Kherva   | 100000.00 | YES        | NULL    |
+--------+--------------+-----------+-----------+------------+---------+
4 rows in set (0.00 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:08:51 2025
> SELECT * FROM ACCOUNT_24012011142 ORDER BY acc_no DESC;
+--------+--------------+-----------+-----------+------------+---------+
| acc_no | Name         | City      | Balance   | loan_taken | address |
+--------+--------------+-----------+-----------+------------+---------+
| A005   | Kothari Nehal | Kherva   | 100000.00 | YES        | NULL    |
| A003   | Dave Hardik  | Ahmedabad |  75000.00 | NO         | NULL    |
| A002   | Patel Ramesh | Mehsana   |  50000.00 | YES        | NULL    |
| A001   | Patel Hiren  | Mehsana   |  50000.00 | YES        | NULL    |
+--------+--------------+-----------+-----------+------------+---------+
4 rows in set (0.00 sec)
```

23.Delete a table LOAN_TEMP.

```
24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 12:56:17 2025
> DROP TABLE LOAN_TEMP;
Query OK, 0 rows affected (0.01 sec)

24012011142_Vatsal [Practical_1_24012011142] Sat Aug 23 13:07:21 2025
> SHOW tables;
+-----------------------------------+
| Tables_in_practical_1_24012011142 |
+-----------------------------------+
| account_24012011142               |
| account_temp                      |
| installment_24012011142           |
| loan_24012011142                  |
| trans_temp                        |
+-----------------------------------+
5 rows in set (0.00 sec)
```

DIY Task:

- **Create a Relational Database for a Car Manufacturing Company. Think of at least 3 schemas of the same. Write Queries to perform CRUD Operation.**

```
24012011142_Vatsal [(none)] Sun Aug 24 12:04:02 2025
> CREATE DATABASE CAR_24012011142;
Query OK, 1 row affected (0.00 sec)

24012011142_Vatsal [(none)] Sun Aug 24 12:04:12 2025
> USE CAR_24012011142;
Database changed
```

Create three related tables:

1. Cars_yourENno (store car ID, model name, year, and price)

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:04:19 2025
> CREATE TABLE Cars_24012011142 (
    ->     car_id VARCHAR(5) PRIMARY KEY,
    ->     model_name VARCHAR(50),
    ->     year INT,
    ->     price DECIMAL(10,2)
    -> );
Query OK, 0 rows affected (0.02 sec)
```

2. Manufacturers_yourENno (store manufacturer ID, name, and country)

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:04:24 2025
> CREATE TABLE Manufacturers_24012011142 (
    ->     manufacturer_id VARCHAR(5) PRIMARY KEY,
    ->     name VARCHAR(50),
    ->     country VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

3. Production_yourENno (store production ID, car ID, manufacturer ID, quantity, and production date)

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:04:33 2025
> CREATE TABLE Production_24012011142 (
    ->     production_id VARCHAR(5) PRIMARY KEY,
    ->     car_id VARCHAR(5),
    ->     manufacturer_id VARCHAR(5),
    ->     production_date DATE,
    ->     units_produced INT
    -> );
Query OK, 0 rows affected (0.01 sec)
```

Write Queries to perform CRUD Operation.

1. Insert a new car with model name 'EcoDrive', year 2023, and price

18,000 into the Cars table.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:07 2025
> INSERT INTO Cars_24012011142 (car_id, model_name, year, price) VALUES
    -> ('C001', 'Speedster', 2021, 25000),
    -> ('C002', 'EchoDrive', 2023, 18000),
    -> ('C003', 'UrbanX', 2022, 22000),
    -> ('C004', 'FamilyGo', 2020, 17000);
Query OK, 4 rows affected (0.00 sec)
Records: 4  Duplicates: 0  Warnings: 0

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:07:02 2025
> DESC Cars_24012011142;
+------------+---------------+------+-----+---------+-------+
| Field      | Type          | Null | Key | Default | Extra |
+------------+---------------+------+-----+---------+-------+
| car_id     | varchar(5)    | NO   | PRI | NULL    |       |
| model_name | varchar(50)   | YES  |     | NULL    |       |
| year       | int           | YES  |     | NULL    |       |
| price      | decimal(10,2) | YES  |     | NULL    |       |
+------------+---------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

2. Insert a new manufacturer named 'GreenMotors' from 'USA' into the Manufacturers table.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:13 2025
> INSERT INTO Manufacturers_24012011142 (manufacturer_id, name, country) VALUES
    -> ('M01', 'AutoTech', 'Germany'),
    -> ('M02', 'Green Motors', 'USA'),
    -> ('M03', 'City Cars', 'Japan'),
    -> ('M04', 'Family Motors', 'India');
Query OK, 4 rows affected (0.00 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:14:53 2025
> DESC Manufacturers_24012011142;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| manufacturer_id | varchar(5)  | NO   | PRI | NULL    |       |
| name            | varchar(50) | YES  |     | NULL    |       |
| country         | varchar(50) | YES  |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

3. Insert a production record for 200 units of car ID 2 made by manufacturer ID 2 on '2023-07-15'.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:18 2025
> INSERT INTO Production_24012011142 (production_id, car_id, manufacturer_id, production_date, units_produced) VALUES
    -> ('P001', 'C001', 'M01', '2021-03-10', 150),
    -> ('P002', 'C002', 'M02', '2023-07-15', 200),
    -> ('P003', 'C003', 'M03', '2022-11-05', 180),
    -> ('P004', 'C004', 'M04', '2020-06-20', 120);
Query OK, 4 rows affected (0.00 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:14:59 2025
> DESC Production_24012011142;
+-----------------+------------+------+-----+---------+-------+
| Field           | Type       | Null | Key | Default | Extra |
+-----------------+------------+------+-----+---------+-------+
| production_id   | varchar(5) | NO   | PRI | NULL    |       |
| car_id          | varchar(5) | YES  |     | NULL    |       |
| manufacturer_id | varchar(5) | YES  |     | NULL    |       |
| production_date | date       | YES  |     | NULL    |       |
| units_produced  | int        | YES  |     | NULL    |       |
+-----------------+------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

4. Select all cars that were manufactured after the year 2020.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:23 2025
> SELECT * FROM Cars_24012011142;
+--------+------------+------+----------+
| car_id | model_name | year | price    |
+--------+------------+------+----------+
| C001   | Speedster  | 2021 | 25000.00 |
| C002   | EchoDrive  | 2023 | 18000.00 |
| C003   | UrbanX     | 2022 | 22000.00 |
| C004   | FamilyGo   | 2020 | 17000.00 |
+--------+------------+------+----------+
4 rows in set (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:32 2025
> SELECT * FROM Cars_24012011142 WHERE year > 2020;
+--------+------------+------+----------+
| car_id | model_name | year | price    |
+--------+------------+------+----------+
| C001   | Speedster  | 2021 | 25000.00 |
| C002   | EchoDrive  | 2023 | 18000.00 |
| C003   | UrbanX     | 2022 | 22000.00 |
+--------+------------+------+----------+
3 rows in set (0.00 sec)
```

5. Select the names and countries of all manufacturers.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:36 2025
> SELECT * FROM Manufacturers_24012011142;
+-----------------+---------------+---------+
| manufacturer_id | name          | country |
+-----------------+---------------+---------+
| M01             | AutoTech      | Germany |
| M02             | Green Motors  | USA     |
| M03             | City Cars     | Japan   |
| M04             | Family Motors | India   |
+-----------------+---------------+---------+
4 rows in set (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:40 2025
> SELECT name, country FROM Manufacturers_24012011142;
+---------------+---------+
| name          | country |
+---------------+---------+
| AutoTech      | Germany |
| Green Motors  | USA     |
| City Cars     | Japan   |
| Family Motors | India   |
+---------------+---------+
4 rows in set (0.00 sec)
```

6. Update the price of the car with ID 2 to 19,500.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:44 2025
> SELECT * FROM Cars_24012011142;
+--------+------------+------+----------+
| car_id | model_name | year | price    |
+--------+------------+------+----------+
| C001   | Speedster  | 2021 | 25000.00 |
| C002   | EchoDrive  | 2023 | 18000.00 |
| C003   | UrbanX     | 2022 | 22000.00 |
| C004   | FamilyGo   | 2020 | 17000.00 |
+--------+------------+------+----------+
4 rows in set (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:52 2025
> UPDATE Cars_24012011142 SET price = 19500 WHERE car_id = 'C002';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:05:57 2025
> SELECT * FROM Cars_24012011142;
+--------+------------+------+----------+
| car_id | model_name | year | price    |
+--------+------------+------+----------+
| C001   | Speedster  | 2021 | 25000.00 |
| C002   | EchoDrive  | 2023 | 19500.00 |
| C003   | UrbanX     | 2022 | 22000.00 |
| C004   | FamilyGo   | 2020 | 17000.00 |
+--------+------------+------+----------+
4 rows in set (0.00 sec)
```

7. Update the name of the manufacturer with ID 2 to 'EcoMotors'.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:01 2025
> SELECT * FROM Manufacturers_24012011142;
+-----------------+---------------+---------+
| manufacturer_id | name          | country |
+-----------------+---------------+---------+
| M01             | AutoTech      | Germany |
| M02             | Green Motors  | USA     |
| M03             | City Cars     | Japan   |
| M04             | Family Motors | India   |
+-----------------+---------------+---------+
4 rows in set (0.00 sec)
```

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:09 2025
> UPDATE Manufacturers_24012011142 SET name = 'EcoMotors' WHERE manufacturer_id = 'M02';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:14 2025
> SELECT * FROM Manufacturers_24012011142;
+-----------------+---------------+---------+
| manufacturer_id | name          | country |
+-----------------+---------------+---------+
| M01             | AutoTech      | Germany |
| M02             | EcoMotors     | USA     |
| M03             | City Cars     | Japan   |
| M04             | Family Motors | India   |
+-----------------+---------------+---------+
4 rows in set (0.00 sec)
```

8. Delete the car with ID 3 from the Cars table.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:20 2025
> SELECT * FROM Cars_24012011142;
+--------+------------+------+----------+
| car_id | model_name | year | price    |
+--------+------------+------+----------+
| C001   | Speedster  | 2021 | 25000.00 |
| C002   | EchoDrive  | 2023 | 19500.00 |
| C003   | UrbanX     | 2022 | 22000.00 |
| C004   | FamilyGo   | 2020 | 17000.00 |
+--------+------------+------+----------+
4 rows in set (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:25 2025
> DELETE FROM Cars_24012011142 WHERE car_id = 'C003';
Query OK, 1 row affected (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:31 2025
> SELECT * FROM Cars_24012011142;
+--------+------------+------+----------+
| car_id | model_name | year | price    |
+--------+------------+------+----------+
| C001   | Speedster  | 2021 | 25000.00 |
| C002   | EchoDrive  | 2023 | 19500.00 |
| C004   | FamilyGo   | 2020 | 17000.00 |
+--------+------------+------+----------+
3 rows in set (0.00 sec)
```

9. Delete the production record with ID 1002 from the Production table.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:37 2025
> SELECT * FROM Production_24012011142;
+---------------+--------+-----------------+-----------------+----------------+
| production_id | car_id | manufacturer_id | production_date | units_produced |
+---------------+--------+-----------------+-----------------+----------------+
| P001          | C001   | M01             | 2021-03-10      |            150 |
| P002          | C002   | M02             | 2023-07-15      |            200 |
| P003          | C003   | M03             | 2022-11-05      |            180 |
| P004          | C004   | M04             | 2020-06-20      |            120 |
+---------------+--------+-----------------+-----------------+----------------+
4 rows in set (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:46 2025
> DELETE from Production_24012011142 WHERE production_id = 'P003';
Query OK, 1 row affected (0.00 sec)

24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:51 2025
> SELECT * FROM Production_24012011142;
+---------------+--------+-----------------+-----------------+----------------+
| production_id | car_id | manufacturer_id | production_date | units_produced |
+---------------+--------+-----------------+-----------------+----------------+
| P001          | C001   | M01             | 2021-03-10      |            150 |
| P002          | C002   | M02             | 2023-07-15      |            200 |
| P004          | C004   | M04             | 2020-06-20      |            120 |
+---------------+--------+-----------------+-----------------+----------------+
3 rows in set (0.00 sec)
```

10. Select all production records and show the car ID, manufacturer ID, and quantity produced.

```
24012011142_Vatsal [CAR_24012011142] Sun Aug 24 12:06:58 2025
> SELECT * FROM Production_24012011142;
+---------------+--------+-----------------+-----------------+----------------+
| production_id | car_id | manufacturer_id | production_date | units_produced |
+---------------+--------+-----------------+-----------------+----------------+
| P001          | C001   | M01             | 2021-03-10      |            150 |
| P002          | C002   | M02             | 2023-07-15      |            200 |
| P004          | C004   | M04             | 2020-06-20      |            120 |
+---------------+--------+-----------------+-----------------+----------------+
3 rows in set (0.00 sec)
```