

Date:- 4/8/25

Task:- 2.1

Generating Design of other traditional database model.

Aim:- To implementation of DDL and DML commands of SQL with suitable example

- Create Table.
- Drop Table.
- Truncate
- Insert
- UPDATE
- SELECT
- DELETE

SQL (structured query language)

SQL is the standard language used to interact with relation database. It allows user to create, modify, query, and manage data efficiently.

These are five types of SQL statement they are

1. Data Definition Language (DDL)
2. Data manipulation language (DML)
3. Data Retrieval language (DRL)
4. Transactional control language (TCL)
5. Data control language (DCI)

Data Definition Language (DDL)

The Data Definition Language (DDL) is used to create and destroy database and database objects. These commands will

output:-

Fields for Book	Type
Book ID	INT
Title	VARCHAR(150)
Author	VARCHAR(100)
Price	DECIMAL(8,2)

AE-LECH	XNU
PERIODIC	PERIODIC
RESERVATION	RESERVATION

Primarily be used by database and minister
ators during the setup and removal phase
of a database project lets take a look of
the structure and usage of four DDL commands
DDL commands (Data Definition Language)
Definition: - DDL commands are used to define modify
or delete the structure of database objects
such as table.

1. CREATE TABLE

Definition: - used to create a new table in the
database.

SQl:

```
CREATE TABLE Books (
    BookID INT,
    Title VARCHAR(150),
    Author VARCHAR(100),
    Price DECIMAL (8,2)
);
```

CREATE TABLE Numbers

```
Member ID INT,
Member Name VARCHAR(100),
Join Date Date,
```

;

Output;

raffles books and members created
successfully.

2. DESCRIBE OR DESC

Definition:- Display the structure of a table i.e. column names and data types.

SQL:

DESC Books;

Output: old book 200 100

3. DROP TABLE

Definition:- Deletes the entire table structure and all its data.

SQL: DROP TABLE Books;

Output: Table Books dropped successfully.

Output:

Table Books dropped successfully.

4. ALTER TABLE

Definition:- Used to add, delete or modify columns in an existing table.

SQL: ALTER TABLE Books ADD Published Year INT;

Output:-

column Published year added to Books

Definition:- DML commands are used to manage and manipulate data inside database table.

1. INSERT INTO

Definition:- Insert new into a table

SQL

SQL

1. **INSERT INTO Books (Book ID, Title, Author, Price)**
values(1, "The Alchemist", "Paulo Coelho", 350.00)

2. **INSERT INTO Books (Book ID, Title, Author, Price)**
values(2, "Wings of Fire", "A.P.J. Abdul Kalam", 400.00)

3. **INSERT INTO Books (Book ID, Title, Author, Price)**
values(3, "1984", "George Orwell", 299.00);
 3 rows inserted into books table.

2. **SELECT**

Definition: retrieves data from one or more tables

SQL:

SELECT * from Books;

3. **UPDATE**

Definition: modifies existing data in a table

SQL:

UPDATE Books SET Price = 450.00 WHERE
Title = 'Wings of Fire';

Output:- 1 row updated.

SQL: 1 row updated.

'SELECT' from Books

4. **DELETE**: No option

Definition: Deletes one or more rows from a table.

SQL:

DELETE

FROM

command type	command	Distribution
DQL	CREATE	Create table
DQL	DESC	Show table
DQL	DROP	Delete table
DQL	ALTER	Modifies table structure
DML	INSERT	Add records to table.
DML	SELECT	Retrieves record
DML	UPDATE	Modifies record
DML	DELETE	Removes record

If user has privilege to update table then he can update record
 If user has privilege to insert then he can insert record
 If user has privilege to delete then he can delete record
 If user has privilege to select then he can select record
 If user has privilege to alter then he can alter table
 If user has privilege to drop then he can drop table
 If user has privilege to create then he can create table

Output:-

BookID	Title	Author	Price
1	The Alchemist	Paulo Coelho	350
2	wings of fire	A.P.J. Abdul Kalam	400
3	1984	George Orwell	299

BookID	Title	Author	Price
1	The Alchemist	Paulo Coelho	350
2	wings of fire	A.P.J. Abdul Kalam	450
3	1984	George Orwell	299

Output:-

00-024 = 50148

732

2400

374098

BookID	Title	Author	Price
2	wings of fire	A.P.J. Abdul Kalam	400
3	1984	George Orwell	1200

Output:- more menu see - 00-024 - required

BookID	Title	Author	Price
3	1984	George Orwell	299

SQL

SELECT FROM Books WHERE Book ID=1

Output

1 row deleted

SQL:-

SELECT * FROM Books

5. SELECT with where clause

Definition:- Retriever specific records that satisfy the condition.

SQL

SELECT * FROM Books WHERE Author='George Orwell';

VEL TECH	
EX No.	201
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	3
RECORD (5)	—
TOTAL (20)	13
SIGN WITH DATE	11/8/25

Result:- the task to create, delete, alter the table and DDL commands was executed successfully.

Date:- 11/8/25 The DDL and DML commands
MST:- 2.2 with constraints

Aim:- to implement the DDL and DML commands
with constraints

DDL commands:-

CREATE, ALTER, DROP, TRUNCATE, RENAME

DML commands:-

INSERT, UPDATE, DELETE, SELECT
constraints

Primary key

Foreign key

NOT NULL

UNIQUE

CHECK

DEFAULT

CREATE TABLE Books (

Book ID INT PRIMARY KEY,

Title VARCHAR(150) NOT NULL,

Author VARCHAR(8,12) NOT NULL,

Price DECIMAL(8,2) CHECK (Price > 0),

Published Year INT DEFAULT 2020,

ISBN VARCHAR(20) UNIQUE

CREATE TABLE members (

Member ID INT PRIMARY KEY,

Member Name VARCHAR(100) NOT NULL,
Join Date DATE DEFAULT CURRENT_DATE,
Email VARCHAR(100) UNIQUE
);

CREATE TABLE Barrow

BarrowID INT PRIMARY KEY,
Book ID INT NOT NULL,
Member ID INT NOT NULL;
Borrow Date DATE DEFAULT CURRENT_DATE,
Return Date DATE,
FOREIGN KEY (Book ID) REFERENCES Books(BookID),
FOREIGN KEY (Member ID) REFERENCES Members
(members)
);

1.2 ALTER TABLE

ALTER TABLE Books ADD publisher VARCHAR(100);
ALTER TABLE Books MODIFY price DECIMAL(10,2);

1.3 TRUNCATE TABLE

TRUNCATE TABLE Barrow;

TABLE truncated

1.4 RENAME TABLE

RENAME TABLE Members TO library members
TABLE renamed.

DML commands for library management system.

2.1 INSERT DATA

SQl:

```
INSERT INTO Books (BookID, Title, Author, Price,  
published year, ISBN)
```

```
value ('1', 'The Alchemist', 'Paulo Coelho', 350.00,  
null, '9780061122415');
```

```
INSERT INTO Library members (MemberID, member  
Name, Join Date, Email)
```

```
value ('101', 'Ananya Sharma', '2025-08-01',  
'ananya@gmail.com');
```

```
INSERT INTO Borrow (Borrow ID, Book ID, members ID,  
Borrow Date, Return Date)
```

```
values ('1001', '1', '101', '2025-08-10', null);
```

Output After INSERT:-

Books Table

BookID	Title	Author	Price	Published Year
1	The Alchemist	Paulo Coelho	350	2018
9780061122415	NULL			

Library members Table

Member ID	member name	Join Date	Email
101	Ananya Sharma	25-08-01	ananya@gmail.com

Barrow table

Barrow ID	Book ID	Member ID	Borrow Date
1001	1	101	2025-08-10

2.2 UPDATE DATE

SQL

UPDATE Books

SET Price = 400.00 , Published Year = 2022
WHERE BookID = 1;

Output :-

1 row updated successfully.

Books table after update.

Book ID	Title	Author	Price	ISBN	Publisher
1	The Al chemist	Paulo Coelho	400	97809122415	NULL

2.3 DELETE DATA

SQL

DELETE FROM Barrow

WHERE Barrow ID = 1001;

Output

1 row deleted from Barrow table
Barrow table after Delete.

No rows

2.4 SELECT with JOIN

SQL

SELECT b.Title, b.Author, l.Membername, b.
Barrow Date

From Borrow by

JOIN BooksOn by Books.Ib = b.Book ID

JOIN LibraryMember 1 on bks.MemberID = l.Member
ID;

Output:-

No rows returned as Borrow table

do empty

VELTECH	
ENo	22
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (3)	3
RECORD (3)	—
TOTAL (20)	13
SIGN WITH DATES	4/11/2025

Result:- All DDL and DML commands executed successfully with constraints and sample outputs.