Task-2.1 Generating Design of other traditional base

04/08/25

Aim: To perform (DDL) data definition language and (DML) data manipulation commands.

DDL commands

→ Create
→ Drop
→ Alter
→ Rename

DML command

→ Insert
→ Update
→ Delete
→ Select

DDL commands:

* Creating a Table by using Create commands

```
CREATE Table Student (
        Stu_id Pnd,
        Stu_name varchar(30),
        Stu department varchar(30),
        Stu_gender varchar(30),
        Stu_ph_no Pnd :
```

* Using ALTER command we can add or more the column.

Syntax:

```
ALTER TABLE Student - Add column Stu_dept
  Pnt;
```

Drop

Drop command is used to drop the table completely

Drop Table student.

TRUNCATE:

* Truncate command is used to all data but keep structure.

Truncate Table student.

DML commands:

Insert

* Insert command is used to insert the values to the table.

INSERT INTO STUDENT VALUES

(330628, 'Sanjay', 'CSE', male, '962486')

(28800, 'Shawan', 'CSE', male, '862431')

Update

update command is used to update the existing records.

UPDATE student

SET stu_name = 'Sanjay'

where stu-ID = 28800;

DELETE

* Delete command is used to operate the existing records.

Delete from student

where stu_Id = 28800

SELECT

* Select command is used to retrieve the records form table.

SELECT * from Student

| SNO | Stu-ID | Stu-name | Stu-department | Stu-gender | Stu-ph-no |
|---|---|---|---|---|---|
| 1 | 30628 | Ram | CSE | male | 9428628 |

Eg: CREATE TABLE STUDENT &(
Roll-no INT,
Name VARCHAR(30)
Age INT,
Course , VARCHAR(30);
ALTER TABLE students ADD
Gmail VARCHAR(50);
INSERT INTO students VALUES
(1, 'Sanjay', 19, 'B.Tech', 'Sanjay@gmail.com')
(2, 'Roy'; 21, 'B.Tech', 'roy@gmail.com')
(3, 'Arun'; 20, 'B.Tech', 'arun@gmail.com')
UPDATE Students
SET Email = vtu 30628 @ gmail.com
where Roll-no = 1;
DELETE FROM STUDENTS
where Roll-no = 2;
SELECT * FROM STUDENTS

| S.NO | Roll-no | Name | Age | Course | Email |
|---|---|---|---|---|---|
| 1 | 1 | Ram | 19 | B.Tech | Ram@gmail.com |
| 2 | 3 | Roy | 20 | B.Tech | Roy@gmail.com |

SELECT Name FROM Students;

| S.NO | Name |
|---|---|
| 1 | Ram |
| 2 | Roy |

SELECT * FROM Students
where name = "Sanjay";

| S.NO | ROLL NO | Name | Age | Course | E-mail |
|---|---|---|---|---|---|
| 1 | 1 | Sam | 20 | B.Tech | Sam@gmail.com |

VEL TECH

| | |
|---|---|
| EX No. | 2 |
| PERFORMANCE (5) | 5 |
| RESULT AND ANALYSIS (5) | 5 |
| VIVA VOCE (5) | 4 |
| RECORD (5) | 14 |
| TOTAL (25) | |
| SIGN WITH DATE | 24/8/22 |

Result: All the DDL and DML commands are executed on SQL are successfully executed."

Task 2.2 Date: 04/08/2025

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, 2) NOT NULL, (Price >0),
    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 Borrow (
    BarrowID INT PRIMARY KEY,
    Book ID INT NOT NULL,
    Numba 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 (member ID)
);
```

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 Borrow;
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 (BOOK ID, Title, Author, Price, Published Year,
                   ISBN)
Value ( 1, 'The ALchemist', 1 Paulo Coelho', 350.00, 2018,
        '9780061122415');

INSERT INTO Library Members (Members ID, Member Name, Join
                             Date, Email)
Value (101, 'Ananya Sharma', '2025-08-01', 'ananya@gmail.com')

INSERT INTO Borrow (Borrow ID, Book ID, Member ID,
                    Borrow Date, Return Date)
VALUES (1001, 1, 101, 2025-08-10, NULL);
```

Output After Insert:

Books Table

| Book ID | Title | Author | Price | Published |
|---|---|---|---|---|
| 1 | The ALchemist | Paulo Coelho | 350.00 | 2018 |

Library Members Table

| Member ID | Member Name | Join Date | Email |
|---|---|---|---|
| 101 | Ananya Sharma | 2025-08-01 | ananya@gmail.com |

Borrow Table

| Borrow Table | Book ID | Member ID | Borrow Date | Return Date |
|---|---|---|---|---|
| 1001 | 1 | 101 | 2025-08-01 | NULL |

Output 2.2:-

1 row updated successfully.

Books Table After update:

| BookID | Title | Author | Price | ISBN | Publisher |
|---|---|---|---|---|---|
| 1 | The Alchemist | Paulo Coelho | 400 | 9788811 2244 | NULL |

Output 2.3:-

1 row deleted from Borrow table

Borrow table after Delete:

No rows.

Output 2.4:-

No rows returned as Borrow table is empty.

2.2 UPDATE Data

Sql:

```
UPDATE Books
SET Price = 400.00, Published_Year = 2022
WHERE Book_ID = 1;
```

2.3 DELETE Data

Sql:

```
DELETE FROM Borrow
WHERE Borrow_ID = 1001;
```

2.4 SELECT with JOIN:

Sql:

```
SELECT b.Title, b.Author, l.Member_Name, br.Borrow_Date
FROM Borrow br
JOIN Books ON br.Book_ID = b.Book_ID
JOIN Library_Member l ON br.Member_ID = l.Member_ID;
```

| VEL TECH | |
|---|---|
| EX No. | 2.2 |
| PERFORMANCE (5) | 5 |
| RESULT AND ANALYSIS (5) | 5 |
| VIVA VOCE (5) | 4 |
| RECORD (5) | - |
| TOTAL (20) | 14 |
| SIGN WITH DATE | 24/8/25 |

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