

18.07.25

TASK 2

Generating Design of Traditional Database Model

Aim: To Implement DDL, DML Commands of SQL with suitable example

- create Table
- Alter Table
- Drop Table
- Truncate

- INSERT
- UPDATE
- DELETE
- SELECT

SQL (Structured Query Language)

SQL is the standard Language used to interact with relational Database. IT allows user to create, modify query and manage Data.

There are Five Types of SQL statement. They are

1. Data Definition Language (DDL)
2. Data Manipulation Language (DML)
3. Data Retrieval Language (DRL)
4. Data Control Language (DCL)
5. Transactional Control Language (TCL)

1. Data Definition Language (DDL): IT is used to create and destroy Database and objects. These commands will primarily be used by database administrator during the setup and removal phase of a Database Project. Let's take a look at the structure.

1. CREATE TABLE: used to create a new Table in Database

```
CREATE TABLE CUSTOMER (  
  CUSTOMER ID INT PRIMARY KEY,  
  Name VARCHAR(100),  
  COUNTRY VARCHAR(50),  
  Email VARCHAR(100) UNIQUE  
);
```

2. ALTER TABLE: used to add, delete or modify columns in an existing Table.

After Alter Table

DESC CUSTOMER;

SSN	Varchar (20)
Name	Varchar (100)
Email	Varchar (100)
Phone	Varchar (15)
Address	Varchar (200)

After insertion

SSN	Name	Email	Phone	Address
CUSTOMER01	SELENA	selena@gmail.com	8889995431	Chennai
CUSTOMER02	Allin	Allin@gmail.com	984011321	Bihar

After update

SELECT * FROM CUSTOMER				
SSN	Name	Email	Phone	Address
CUSTOMER01	SELENA	selena@gmail.com	9000001234	chennai
CUSTOMER02	Allin	Allin@gmail.com	984011321	Bihar

ALTER TABLE Customer ADD Address VARCHAR(200);

DESCRIBE OR DESC

Display the structure of a table (column names and data type)

3. DROP TABLE :

Deletes the entire table structure and all its data.

SQL: DROP TABLE CUSTOMER;

output: Table ~~Books~~ CUSTOMER dropped successfully

4. ALTER TABLE :

used to add, delete or modify, columns in an existing table

DML COMMANDS :-

DML Commands are used to manage and manipulate data inside database

1. Insert :

Insert new rows into a table

INSERT INTO Customer (SSN, Name, Email, Phone, Address)

VALUES ('CUSTOMER01', 'SELENA', 'selena@gmail.com', '8889995431', 'chennai')

INSERT INTO CUSTOMER (SSN, Name, Email, Phone, Address)

VALUES ('CUSTOMER02', 'Allin', 'Allin@gmail.com', '984011321', 'Bihar');

2. SELECT

Retrieve data from one or more table

SELECT * FROM CUSTOMER,

3. UPDATE :

Modifies existing data in a table

query

UPDATE Customer

SET Phone : '4000001234'

WHERE SSN : 'CUSTOMER01'

4. DELETE :

Deletes one or more rows from a table

Query :

DELETE FROM CUSTOMER WHERE SSN = 'CUSTOMER02';

VELTECH	
EX No.	2-1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	5
VIVA VOCE (3)	5
RECORD (4)	-
TOTAL (15)	15
SIGNATURE	418

Result : Thus all the DDL and DML COMMANDS are created successfully

DESC CUSTOMER

Field	Type	Null	Key	Default
SSN	Varchar(20)	NO	PRI	NULL
Name	Varchar(100)	NO		NULL
Email	Varchar(100)	Yes	UNI	NULL
Phone	Varchar(10)	Yes		NULL
Address	Varchar(200)	Yes		unknown
DOB	date	No		NULL

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TASK 2-2

DDL and DML Commands with constraints

Aim: To Perform DDL and DML Commands with constraints in SQL.

constraints:

NOT NULL

UNIQUE

PRIMARY KEY

FOREIGN KEY

CHECK

DEFAULT

Not Null; IT ensures a column cannot save null values

Syntax: CREATE TABLE TABLE_NAME (column NAME DATATYPE NOT NULL

unique: IT ensures all values in a column are unique

CREATE TABLE TABLE_NAME (column name Datatype unique);

DDL Commands with constraints:

```
CREATE TABLE CUSTOMER (  
    SSN VARCHAR(20) PRIMARY KEY,  
    Name VARCHAR(100) NOT NULL,  
    Email VARCHAR(100) UNIQUE,  
    Phone VARCHAR(15) CHECK (LENGTH (Phone 10)),  
    Address VARCHAR(200) DEFAULT unknown  
);
```

```
CREATE TABLE HOTEL (  
    HOTELID INT PRIMARY KEY,  
    Name VARCHAR(100) NOT NULL,  
    LOCATION VARCHAR(100) NOT NULL,  
);
```

```
CREATE TABLE ROOMS (  
    RoomID INT PRIMARY KEY,  
    Name VARCHAR(50) NOT NULL,  
    HOTELID INT,  
);
```

ALTER TABLE:

ALTER TABLE (CUSTOMER ADD DOB DATE NOT NULL;

ALTER TABLE CUSTOMER MODIFY PHONE VARCHAR(20);

TRUNCATE TABLE: TRUNCATE TABLE CUSTOMER;

After inserting data

SELECT * from CUSTOMER

SSN	Name	Email	Phone	Address	DOB
CUSTOMER01	JOHN	John@gmail.com	9876543210	New York	12-05-1990
CUSTOMER02	Advaita	Advaita@gmail.com	986654321	Miami	06-10-1992
CUSTOMER03	Allin	Allin@gmail.com	976543642	London	07-09-1995

After updating data

SELECT * from CUSTOMERS

SSN	Name	Email	Phone	Address	DOB
CUSTOMER01	JOHN	John1@gmail.com	9876543210	New York	12-05-1990
CUSTOMER02	Advaita	Advaita@gmail.com	986654321	Miami	06-10-1992
CUSTOMER03	Allin	Allin@gmail.com	976543642	London	07-09-1995

After Deleting Data

SELECT * from CUSTOMERS

SSN	Name	Email	Phone	Address	DOB
CUSTOMER01	JOHN	John1@gmail.com	9876543210	New York	12-05-1990
CUSTOMER02	Advaita	Advaita@gmail.com	986654321	Miami	06-10-1992

After selecting SSN, NAME

SSN	Name
CUSTOMER01	JOHN
CUSTOMER02	Advaita

RENAME TABLE: RENAME TABLE CUSTOMER TO CUSTOMERS;

2.) DML Commands for Hotel Management System.

INSERT DATA: INSERT INTO CUSTOMERS (SSN, Name, Email, Phone, Address, DOB)
VALUES ('CUSTOMER01', 'JOHN', 'John@gmail.com', '9876543210', 'New York',
'12-05-1990');

INSERT INTO CUSTOMERS (SSN, Name, E-mail, Phone, Address, DOB)
VALUES ('CUSTOMER02', 'Adwaita', 'Adwaita@gmail.com', '486654321', 'Miami',
'06-10-1992');

INSERT INTO CUSTOMERS (SSN, Name, E-mail, Phone, Address, DOB)
VALUES ('CUSTOMER03', 'Allin', 'Allin@gmail.com', '976543214', 'London', '07-09-1995');

UPDATE DATA: UPDATE CUSTOMERS
SET Email = 'John1@gmail.com'
WHERE SSN = CUSTOMER01;

DELETE DATA: DELETE DATA FROM CUSTOMERS
WHERE SSN = CUSTOMER03;

SELECT DATA:

SELECT NAME, SSN
FROM CUSTOMERS;

VELTECH	
EX No.	2.2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	5
VIVA VOCE (3)	5
RECORD (4)	—
TOTAL (15)	15
DATE	11/8

Result: Thus all the DDL and DML Commands with constraints were executed successfully.