

TASK: 3.1

DATE: 1/9/25

DML Commands using database operators and function is Querier

AIM: To implement of DML commands using clauses, operators and functions in queries

Data manipulation Language (DML):

The Data manipulation Language (DML) is used to retrieve, insert and modify database information. These commands will be used by all database users during the routine operation of the basic look at the basic

DML Commands:

1. INSERT
2. UPDATE
3. DELETE

**INSERT INTO**

This is used to add records into a relation

Syntax:

INSERT INTO <table-name> (field 1, field 2, ... field N)

VALUES (data 1, data 2, ... data N);

Example:

SQL:

INSERT INTO patients VALUES (111, Arun, 'cardiology', 'Male');

Table after Insert

Patient ID	Patient Name	Dept	Gender
111	Arun	cardiology	male

UPDATE - SET - WHERE :

- This is used to update the content of a record in a relation.

Syntax:

SQL :

UPDATE table-name SET field1 = data  
WHERE condition;

Example

SQL:

UPDATE patients SET patientName = 'Joe'  
WHERE patients = 111;

Table After update

Patient ID	Pat.Name	DEPT	Gender
111	Joe	cardiology	male

## Doctors table after DELETE

DOCTOR_ID	DOCTOR NAME	DEPT	FEE'S.
201	Dr. Ram	cardiology	1000
203	Dr. Joe	Neurology	900
204	Dr. Paru	Orthopedic	500
205	Dr. Gagu	Dermatology	800

## TRUNCATE:

- This removes all data permanently but keeps the table structure.

Syntax:

TRUNCATE TABLE <table-name>;

Example:-

SQL:

TRUNCATE TABLE Patients;

Patients Table after TRUNCATE:

patient ID	patientName	DEPT	Creder
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## DELETE FROM:-

- This is used to delete all records of a relation but it retains the structure

Syntax:

DELETE FROM table-name:

Example:

SQL:

DELETE FROM Appointments:

Appointments table after DELETE:

Appointment ID	Pat-ID	DOL-ID	APP-Name
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## DELETE - FROM - WHERE:

This is used to delete specific records from a relation

Syntax:

DELETE FROM table-name WHERE condition

Example:

SQL:

DELETE FROM Doctors WHERE  
Doctors.ID = 20

# Sample Queries and OUTPUT.

1. Retrieve patient names ending with letter 'n' and patient no between 111 and 115.

Query:

SQL:

```
SELECT patient Name, Department, Gender  
FROM patients
```

```
WHERE patient Name, LIKE '%n' AND  
patient ID BETWEEN 111 AND 115
```

Patient Name	DEPT	Gender
Ram	cardiology	Male
Arun	orthopedies	Male
Karan	Dermatology	Male.

2. List doctors Where consultation fees between 700 and 800

Query:

SQL:

SELECT \* FROM Doctors WHERE Fees  
BETWEEN 700 AND 800

Doctor ID	Doctor Name	DEPT	Fee
202	Dr. hari	radiotrics	700
205	Dr. sagu	dermatology	800

3. Find The record with minimum appointment duration

Query:

SQL:

SELECT MIN(Duration) FROM Appointment;

MIN (Duration)

20

4. Find appointments with date  $\geq$  '2023-2-7'

Query:

SQL: SELECT \* FROM Appointments WHERE  
Appointment Date  $\geq$  '2023-02-07'

AppointmentID	PatientID	DoctorID	Appointment Date
302	112	203	2023-02-07
303	113	204	2023-02-08
304	114	202	2023-02-10
305	115	205	2023-02-12

5 List distinct patient IDs

Query:

SQL:

SELECT DISTINCT patient ID FROM patients

patient ID
111
112
113
114
115

6. Combine patient IDs from patients and Appointments (UNION)

Query:

SQL:

SELECT patient\_ID FROM patients

UNION

SELECT patient ID FROM APPOINTMENT



OUTPUT:

Patient ID
111
112
113
114
115

7. Group patients based on gender and department

Query:

SQL:

SELECT Department, Gender, COUNT(\*)

AS total\_patients.

FROM patients

GROUP BY Department, Gender;

Department	Gender	Total patients
cardiology	male	1
neurology	female	1
orthopedics	male	1
pediatrics	female	1
permatology	male	1



8. Find doctors and Their department details using GROUP BY and ORDER BY

Query:

SQL:

```
SELECT Doctor name, Department,
COUNT (*) AS count FROM Doctors
GROUP BY Doctor Name, Department
ORDER BY Doctor Name;
```

Doctor Name	Department	Count :
Dr. Ram	Cardiology	1
Dr. Joe	Neurology	1
Dr. Para	Dermatology	1
Dr. Sagu	Pediatrics	1
Dr. hari	Orthopedics	1

VELTECH	
ORTHOPEDICS	31
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	3
RECORD (5)	2
TOTAL (28)	13
DATE	

Result: The Implementation of DML command using clauses, goals and function in queries executed successfully

DATE 19/12/25  
TASK : 3.2

## AGGREGATE FUNCTIONS (multi Row operations)

AIM: To study and implement aggregate functions (COUNT(), SUM(), AVG(), MIN(), MAX()) on a sample student database

### PROCEDURE:

1. Create a table named students
2. Insert sample records.
3. Write queries using aggregate function
4. Observe and record the output

### COMMANDS WITH EXPLANATION:

Example table: patients

Patient ID	Patient Name	Dept	Bill Amount
101	Arun	cardiology	2000
102	Sneha	Neurology	3500
103	Karan	orthopedics	1500
104	Meena	pediatrics	4000
105	Rohan	dermatology	2500

1 Count the total number of patient

SQL:

```
SELECT COUNT(*) AS Total-patients  
FROM patients;
```

Output:

Total patients

5

2 Find the highest bill amount

SQL:

```
SELECT MAX (Bill Amount) AS Highest-Bill  
FROM Patients;
```

OUTPUT

Highest - Bill

4000

3 Find the average bill amount of patients

SQL:

```
SELECT AVG (Bill Amount) AS Average-bill  
FROM patients;
```

OUTPUT :-

Average - Bill

2700



- 4 Find The minmus bill amount among patients in Neurology department

SQL:

```
SELECT MIN (Bill Amount) AS MIN-
```

Neurology-Bill

OUTPUT

Min - Neurology-Bill

3500

- 5 Find The total-Bill amount by each department

SQL:

```
SELECT Department, SUM (Bill Amount) AS  
Total Bill
```

FROM patients

GROUP BY Department;

OUTPUT

DEPT

TOTAL BILL

cardiology

2000

Neurology

3500

orthopedics

1500

pediatrics

4000

Dermatology

2500

8 Find The average bill per department ordered by average descending

SQL:

```
SELECT Department, AVG (BillAmount)
AS AverBill
FROM Patients
GROUP BY Department
ORDER BY Avg-Bill DESC;
```

Output:

Department	Avg-Bill
Pediatrics	4000
Neurology	3500
Dermatology	2500
Cardiology	2000
Orthopedics	1500

Result:

The Implementation of Aggregate function are executed successfully.

VEL TECH	
EX No.	42
PERFORMANCE (5)	10
RESULT AND ANALYSIS (5)	8
VIVA VOCE (5)	3
RECORD (5)	1
TOTAL (20)	13
SIGN WITH DATE	9/9/23