

Date: 18/08/2023

Task 3.1: DML commands using clauses, operators and functions in queries.

Aims

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 911 database system during the routine operation of the database. Let's take a brief look at the basic look of the basic 3 of DML Commands:

1. INSERT
2. UPDATE
3. DELETE

1. INSERT INTO

This is used to add records into a relation.

Syntax:

INSERT INTO table-name (field1, field2, ..., fieldN)
VALUES (data1, data2, ..., dataN);

Example:

SQL

INSERT INTO Patients VALUES(111, 'Akun',
'cardiology', 'Male');

Table after INSERT:

Patient ID	Patient Name	Department	Gender
111	Akun	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 = value WHERE
Condition;

Example:

SQL:

UPDATE patients SET PatientName = 'Kumar'
~~WHERE PatientID = 111;~~

Table after UPDATE:

Patient ID	Patient Name	Department	Gender
111	Kumar	cardiology	Male

DELETE FROM:

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

Syntax:

SQL:

DELETE FROM table-name;

Example:

SQL:

DELETE FROM Appointments;

Appointments table after DELETE:

Appointment ID	Patient ID	Doctor ID	Appointment Name	Options

DELETE - FROM - WHERE:

This is used to delete specific records from a relation.

Syntax:

SQL:

DELETE FROM table-name WHERE condition;

Example:

SQL:

DELETE FROM Doctors WHERE DoctorID = 202;

Doctors table after DELETE:

Doctor ID	Doctor Name	Department	Fees
201	Dr. Sharma	Cardiology	1000
203	Dr. Ahmed	Neurology	900
204	Dr. Rajesh	Orthopedic	500
205	Dr. Neha	Dermatology	800

TRUNCATE:

This removes all data permanently but keeps the table structure.

Syntax:

SQL:

TRUNCATE TABLE <table_name>;

Example:

SQL:

TRUNCATE TABLE Patients;

Patients table after TRUNCATE:

PatientID	PatientName	Department	Gender

Simple Queries and Output:

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

Query:

SQL:

~~SELECT PatientName, Department, Gender
From Patients~~

WHERE PatientName LIKE '%.0' AND
PatientID BETWEEN 111 AND 115.

Patient Name	Department	Gender
Amin	Cardiology	Male
Karan	Orthopedics	Male
Rohan	Dermatology	Male

2. List doctors where consultation fees between 700 and 800 every:

SQl

SELECT * FROM DOCTORS WHERE FEES BETWEEN
700 AND 800;

DOCTORID	DOCTORNAME	DEPARTMENTNAME	FEES
202	Dr. Puri	Pediatrics	700
205	Dr. Neeta	Dermatology	800

3. Find the record with minimum appointment duration

Qo Rdy:

SQl:

SELECT MIN(DURATION) FROM APPOINTMENTS;

MIN(DURATION)

20

4. Find appointments with date > '2023-02-01'

Query:

SQL:

SELECT * FROM Appointments WHERE Appointment Date = '2023-02-07'

Appointment ID	Patient ID	Doctor ID	Appointment Duration	Date	Duration
302	112	203		2023-02-07	45
303	113	204		2023-02-07	20
304	114	202		2023-02-10	60
305	115	205		2023-02-12	25

5. List distinct patient IDs

Query:

SQL:

SELECT DISTINCT PatientID FROM Patients;

Patient ID

111

112

113

114

115

6. Combine Patient IDs from Patients and Appointments (UNION)

Query:

SQL:

SELECT PatientID FROM Patients

UNION

SELECT Patient ID FROM appointments;

Output:

Patient ID
11
12
13
14
15

2. 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	-
Nurology	Female	-
Orthopedics	Male	-
Pediatrics	Female	-
Dermatology	Male	-

Q. Find doctors and their department details using GROUP BY and ORDER BY

Query:

SQL:

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

Doctor Name	Department	Count
Dr. Ahmed	Neurology	1
Dr. Neeru	Dermatology	1
Dr. Priya	Pediatrics	1
Dr. Rajesh	Orthopedics	1
Dr. Sharma	Cardiology	1

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F' & EYE EXAM (5)	3.1.
SULT AND ANALYSIS (5)	5
VIVA VOICE (5)	5
W.C.	5
FINAL (20)	—
TOTAL.	15
	End
	25/08/25

RESULT:

The implementation of DML commands using clauses, generators and functions in queries executed successfully.