Name	**Hatim Yusuf Sawai**
UID no.	**2021300108**
Experiment No.	**3**

AIM:	**DML Commands Database Manipulation**
PROBLEM STATEMENT:	Execute DML queries on existing database tables. Execute at least 5-6 different types of queries.
THEORY:	**Data Manipulation Language (DML):** DML is an abbreviation of Data Manipulation Language. The DML commands in Structured Query Language change the data present in the SQL database. We can easily access, store, modify, update and delete the existing records from the database using the DML command **DML commands in SQL:** • **SELECT:** SELECT is the most important data manipulation command in Structured Query Language. The SELECT command shows the records of the specified table. It also shows a particular record of a particular column by using the WHERE clause. **Syntax:** SELECT column1, column2, ..., columnN FROM table_name; **To select all columns in table:** SELECT * FROM table_name; • **INSERT:** INSERT is another important data manipulation command in Structured Query Language, allowing users to insert data in database tables. **Syntax:** INSERT INTO TABLE_NAME (column1 , ... columnN) VALUES (value_1, value_2, value_3, ... value_N);

	• **UPDATE:** UPDATE is another important data manipulation command in Structured Query Language, which allows users to update or modify the existing data in database tables. **Syntax:** UPDATE Table_name SET [column1= value1, ….., columnN = valueN] WHERE CONDITION; Here, **'UPDATE', 'SET',** & **'WHERE'** are the SQL keywords, and 'Table_name' is the name of the table whose values you want to update. • **DELETE:** DELETE is a DML command which allows SQL users to remove single or multiple existing records from the database tables. This command of Data Manipulation Language does not delete the stored data permanently from the database. We use the WHERE clause with the DELETE command to select specific rows from the table. **Syntax:** DELETE FROM Table_Name WHERE condition;
QUERIES:	**Before Manipulation:** **Doctor Table:** 

D_id	Dname	Address	Ph_no	Salary	Field
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
1	akash	Andheri	5748364582	500000	Cardiologist
2	pramod	Parel	8965735643	720000	Neurologist
3	hansraj	Colaba	6758392011	200000	Orthopedic
4	ritu	Santacruz	9876567814	350000	dermatologist
5	viraj	Marol	7898657788	100000	dentist
6	rohit	bhayandar	9956443218	560000	ophthalmologist
7	Iyer	Dahisar	9887854563	320000	gynecologist
8	sachin	Bandra	9876543210	450000	pediatrician
9	sagar	Borivali	9876543210	450000	pediatrician

Patient Table:

P_id	Pname	Age	Address	Ph_no	D_id
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
1	Rahul	25	Andheri	9876543210	1
2	Raj	30	Parel	9876543210	2
3	Pranay	35	Colaba	9876543210	3
4	Dev	40	Santacruz	9876543210	4
5	Hatim	45	Marol	9876543210	5
6	Virinchi	50	bhayandar	9876543210	6
7	Udit	55	Dahisar	9876543210	7
8	Kaif	60	Bandra	9876543210	8
9	Anish	65	Borivali	9876543210	9

1. ALTER Query:

Delete address column from doctor:

```
ALTER TABLE doctor DROP Address;
```

D_id	Dname	Ph_no	Salary	Field
Filter...	Filter...	Filter...	Filter...	Filter...
1	akash	5748364582	500000	Cardiologist
2	pramod	8965735643	720000	Neurologist
3	hansraj	6758392011	200000	Orthopedic
4	ritu	9876567814	350000	dermatologist
5	viraj	7898657788	100000	dentist
6	rohit	9956443218	560000	ophthalmologist
7	Iyer	9887854563	320000	gynecologist
8	sachin	9876543210	450000	pediatrician
9	sagar	9876543210	450000	pediatrician

Add address column & set address to 'Andheri' for id<=5:

```
ALTER TABLE doctor ADD Address VARCHAR(50);
UPDATE doctor SET Address = 'Andheri' WHERE D_id<=5;
```

D_id	Dname	Ph_no	Salary	Field	Address
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
1	akash	5748364582	500000	Cardiologist	Andheri
2	pramod	8965735643	720000	Neurologist	Andheri
3	hansraj	6758392011	200000	Orthopedic	Andheri
4	ritu	9876567814	350000	dermatologist	Andheri
5	viraj	7898657788	100000	dentist	Andheri
6	rohit	9956443218	560000	ophthalmologist	NULL
7	Iyer	9887854563	320000	gynecologist	NULL
8	sachin	9876543210	450000	pediatrician	NULL
9	sagar	9876543210	450000	pediatrician	NULL

2. SELECT Query:

View d_id,dname & Salary data for doctors whose salary is >400000 and sort it in descending order:

SELECT D_id, Dname,Salary FROM doctor WHERE Salary>400000 ORDER BY Salary DESC;

D_id	Dname	Salary
Filter...	Filter...	Filter...
2	pramod	720000
6	rohit	560000
1	akash	500000
8	sachin	450000
9	sagar	450000

View details of patients whose names start with 'r', order in descending order of their age:

SELECT P_id,Pname,Age,Address FROM patient WHERE Pname like 'r%' ORDER BY Age DESC;

P_id	Pname	Age	Address
Filter...	Filter...	Filter...	Filter...
2	Raj	30	Parel
1	Rahul	25	Andheri

Find all patients whose addresses begin with 'b' or end with 'z' and view their name, address & phone no.s:

SELECT Pname,Address,Ph_no FROM patient WHERE Address like 'b%' OR Address like '%z'

Pname	Address	Ph_no
Filter...	Filter...	Filter...
Dev	Santacruz	9876543210
Virinchi	bhayandar	9876543210
Kaif	Bandra	9876543210
Anish	Borivali	9876543210

RESULT:

After Manipulation:

Doctor table:

D_id	Dname	Ph_no	Salary	Field	Address
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
1	akash	5748364582	500000	Cardiologist	Andheri
2	pramod	8965735643	720000	Neurologist	Andheri
3	hansraj	6758392011	200000	Orthopedic	Andheri
4	ritu	9876567814	350000	dermatologist	Andheri
5	viraj	7898657788	100000	dentist	Andheri
6	rohit	9956443218	560000	ophthalmologist	Andheri
7	Iyer	9887854563	320000	gynecologist	Andheri
8	sachin	9876543210	450000	pediatrician	Andheri
9	sagar	9876543210	450000	pediatrician	Andheri

Patient table:

P_id	Pname	Age	Address	Ph_no	D_id
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
1	Rahul	25	Andheri	9876543210	1
2	Raj	30	Parel	9876543210	2
3	Pranay	35	Colaba	9876543210	3
4	Dev	40	Santacruz	9876543210	4
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CONCLUSION:	In this experiment, we learned how to query the data inserted into the table and use the 'WHERE' clause in combination with different conditions to view specific queries of data.