Name	Adwait S Purao
UID no.	2021300101
Experiment No.	3

AIM:	DML Commands Database Manipulation
Program 1	
PROBLEM STATEMENT :	. Writing queries on created tables using various DML commands in MySQL.
Theory:	<ul> <li>DML is an abbreviation for Data Manipulation Language.</li> <li>Data Manipulation Language or DML represents a collection of programming languages explicitly used to make changes in the database, such as:</li> <li>CRUD operations to create, read, update, and delete data using the INSERT, SELECT, UPDATE and Delete commands.</li> <li>DML commands are often part of a more extensive database language, for instance, SQL (Structure Query Language). These DML commands may have a specific syntax to manage data in that language.</li> <li>DML Commands provide a way to read, update, delete, or merge data precisely. In the beginning, DML commands were part of computer programs only, but with the popularity of SQL, they have now become a part of database management.</li> <li>DML Commands provide a way to read, update, delete, or merge data precisely. In the beginning, DML commands were part of computer programs only, but with the popularity of SQL, they have now become a part of database management.</li> <li>Data Manipulation Languages (DML) have two primary classifications: Procedural and Non-procedural programming (declarative programming).</li> <li>List of DML Commands in SQL: Here is a shortlist of all DML commands and their specific functions in the SQL programming language.</li> <li>1)SELECT: Command to fetch data or values from the database</li> <li>2)INSERT: Command to add new or fresh value to the database</li> <li>3)UPDATE: Command to change or update the present/existing data</li> </ul>

to a newer value inside the database

**4)DELETE**: Command to remove or delete the values or data information from the database's current table

# **SELECT DML Command**

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 the particular record of a particular column by using the WHERE clause.

# **Syntax of SELECT DML command:**

SELECT column\_Name\_1, column\_Name\_2, ....,columnName\_FROM Name\_of\_table;

SELECT \* FROM table\_name; -- To select all columns in table

## **INSERT DML Command**

INSERT is another important data manipulation command in Structured Query Language, allowing users to insert data in database tables.

# **Syntax of INSERT Command:**

INSERT INTO TABLE\_NAME ( column\_Name1 , column\_NameN )
VALUES (value\_1, value\_2, value\_3, value\_N );

## **UPDATE DML Command**

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 of UPDATE Command:**

UPDATE Table name

SET [column name1= value 1, ...,column name value ]

WHERE CONDITION:

Here, 'UPDATE', 'SET', and 'WHERE' are the SQL keywords, and 'Table\_name' is the name of the table whose values you want to update.

## **DELETE DML Command**

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 of DELETE Command:**

DELETE FROM Table\_Name

WHERE condition;

#### **DML Statements and Transactions**

**DML Statements:** 

- Database table data can be added, changed, or deleted using Data Manipulation Language (DML) statements.
- DML Statements access the data and process/change the existing tables.
- In the SQL environment, DML statements are entered after the SQL> prompt
- DML statements are entered in the Worksheet in the SQL Developer environment. To access and manipulate data, the SQL Developer Connections frame and tools can be used.
- The effect of a DML statement is not permanent until the transaction that includes it is committed.

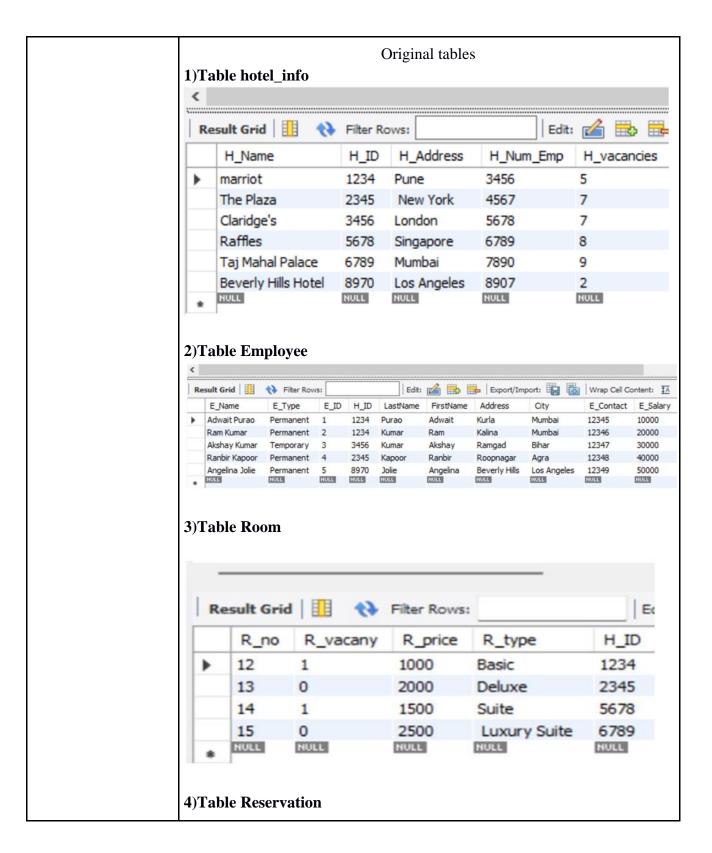
## **Transaction control statements:**

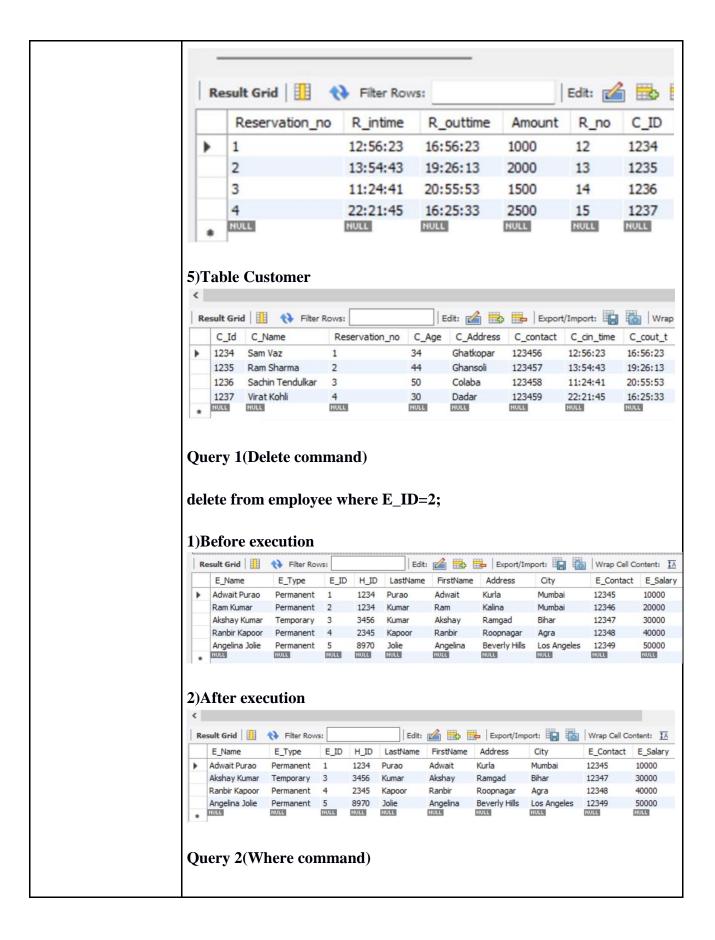
- A transaction is a set of one or multiple SQL statements that the DBMS treats as one unit (single command): either all of the statements are executed or none of them are.
- Transactions are required when writing code for business processes that require multiple operations to be performed as a unit simultaneously. For example, when a team leader (TL) quits the company, a row has to be inserted into the JOB\_ HISTORY table to show when the team leader left, and the value of TL\_ID in the has to be updated against each of his team members in the EMPLOYEES table. To execute this process in a business application, the 'INSERT' and 'UPDATE' DML commands must be combined into a single transaction.

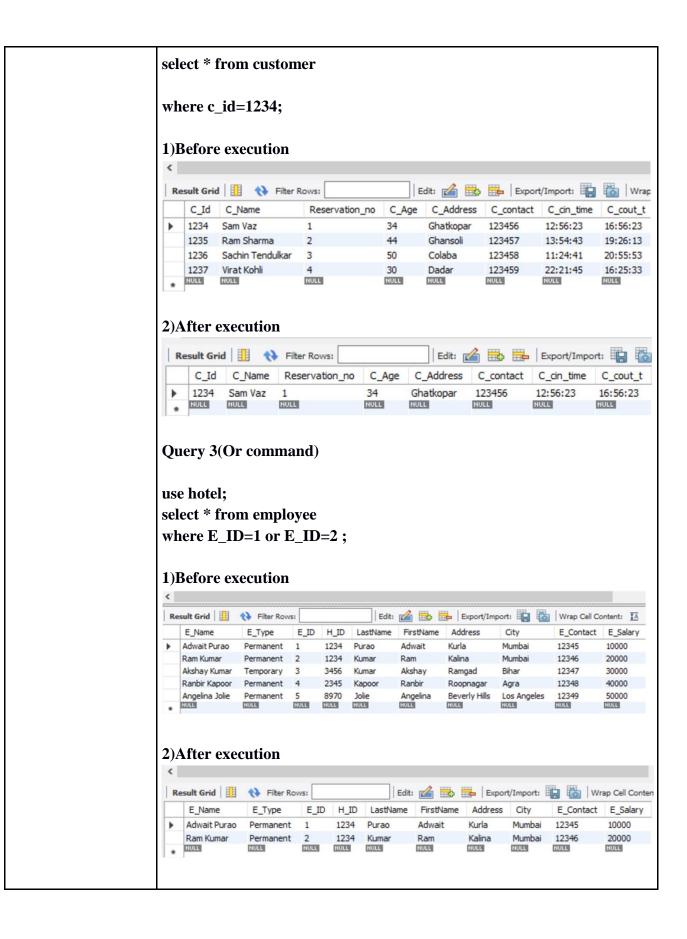
```
Queries
                     Code:
                     CREATE DATABASE Hotel;
                     use Hotel
                     CREATE TABLE Hotel (
                     H_Name Varchar(120) Not Null,
                     H_ID int Primary key,
                     H_Address Varchar(200) Not Null,
                     H_Num_Emp int,
                     H_vacancies int
                     );
                     CREATE TABLE Employee (
                     E_Name Varchar(70),
                     E_Type Varchar(50),
                     E_ID int primary key,
                     H_ID int,
                     foreign key(H_ID) references Hotel(H_ID),
                     LastName varchar(255),
                     FirstName varchar(255),
                     Address varchar(255),
                     City varchar(255),
                     E_Contact int,
                     E_Salary int not null check(E_salary>0)
                     create table Room(
                     R_no int primary key,
                     R_vacany boolean default true,
                     R_price int not null,
                     R_type varchar(30),
                     H_ID int references Hotel(H_ID)
                     );
                     create table Reservation(
                     Reservation_no int primary key,
                     R intime datetime not null,
                     R outtime datetime,
```

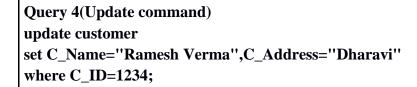
```
Amount int not null check(Amount>0),
R no int references Room(R no),
C ID int references Customer(C ID)
CREATE TABLE Customer(
C_Id int primary key,
C_Name Varchar(50) Not Null,
Reservation_no int,
C_Age int,
C_Address Varchar(70) Not Null,
C contact int,
C cin time int,
C_cout_t int,
foreign key(Reservation_no) references Reservation(Reservation_no)
);
alter table hotel rename hotel_info;
insert into hotel info values("marriot",1234,"Pune",3456,5);
insert into hotel info values("The Plaza",2345,"New York ",4567,7);
insert into hotel info values("Claridge's",3456,"London",5678,7);
insert into hotel_info values("Raffles",5678,"Singapore",6789,8);
insert into hotel_info values("Taj Mahal Palace",6789,"Mumbai ",7890,9);
insert into hotel_info values("Beverly Hills Hotel",8970,"Los
Angeles",8907,2);
insert into employee values("Adwait
Purao", "Permanent", 1,1234, "Purao", "Adwait", "Kurla", "Mumbai", 12345, 10
000);
insert into employee values("Ram
Kumar", "Permanent", 2,1234, "Kumar", "Ram", "Kalina", "Mumbai", 12346, 20
000);
insert into employee values("Akshay
Kumar", "Temporary", 3,3456, "Kumar", "Akshay", "Ram
chowk", "Ramgad", 12347, 30000);
insert into employee values("Ranbir
```

```
Kapoor", "Permanent", 4,2345, "Kapoor", "Ranbir", "Roopnagar", "Agra", 1234
8,40000);
insert into employee values("Angelina
Jolie", "Permanent", 5,8970, "Jolie", "Angelina", "Beverly Hills", "Los
Angeles",12349,50000);
alter table customer modify C_cin_time time;
alter table customer modify C_cout_t time;
alter table reservation modify R_intime time;
alter table reservation modify R_outtime time;
insert into reservation values(1,"12:56:23","16:56:23",1000,12,1234);
insert into reservation values(2,"13:54:43","19:26:13",2000,13,1235);
insert into reservation values(3,"11:24:41","20:55:53",1500,14,1236);
insert into reservation values(4,"22:21:45","16:25:33",2500,15,1237);
insert into customer values(1234,"Sam
Vaz",1,34,"Ghatkopar",123456,"12:56:23","16:56:23");
insert into customer values(1235,"Ram
Sharma", 2,44, "Ghansoli", 123457, "13:54:43", "19:26:13");
insert into customer values(1236,"Sachin
Tendulkar", 3,50, "Colaba", 123458, "11:24:41", "20:55:53");
insert into customer values(1237,"Virat
Kohli",4,30,"Dadar",123459,"22:21:45","16:25:33");
insert into room values(12,1,1000,"Basic",1234);
insert into room values(13,0,2000,"Deluxe",2345);
insert into room values(14,1,1500,"Suite",5678);
insert into room values(15,0,2500," Luxury Suite",6789);
select * from hotel_info;
select * from employee;
select * from room:
select * from reservation:
select * from customer:
```

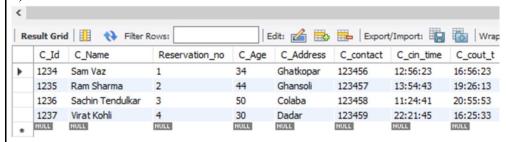




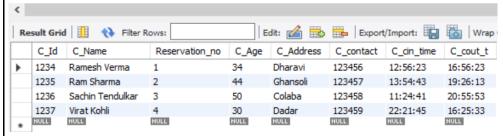




# 1)Before execution



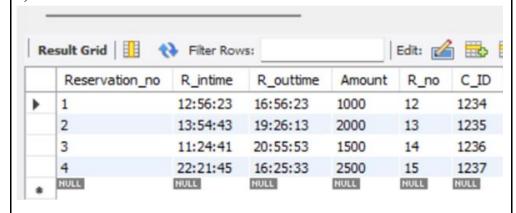
## 2)After execution



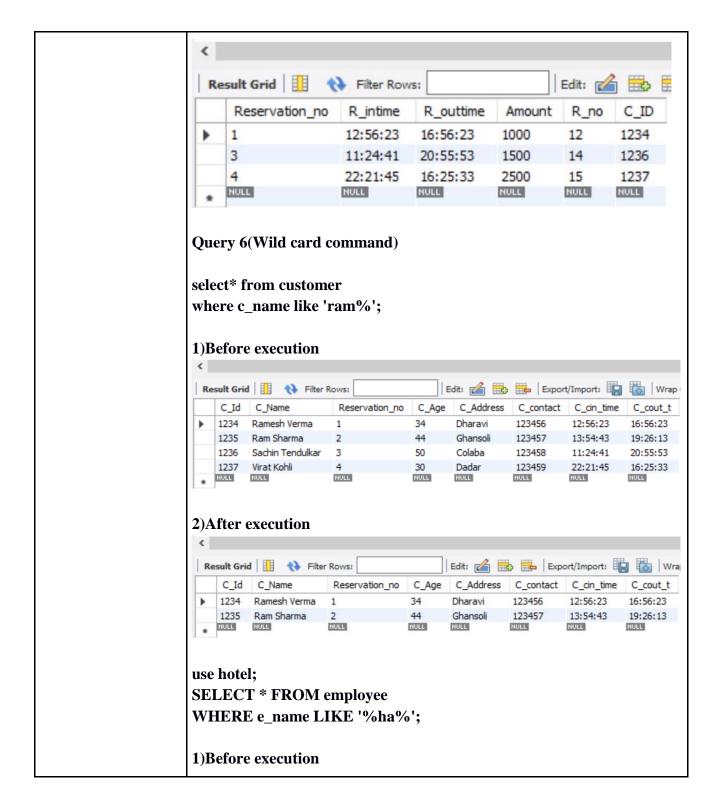
Query 5(Not command) use hotel;

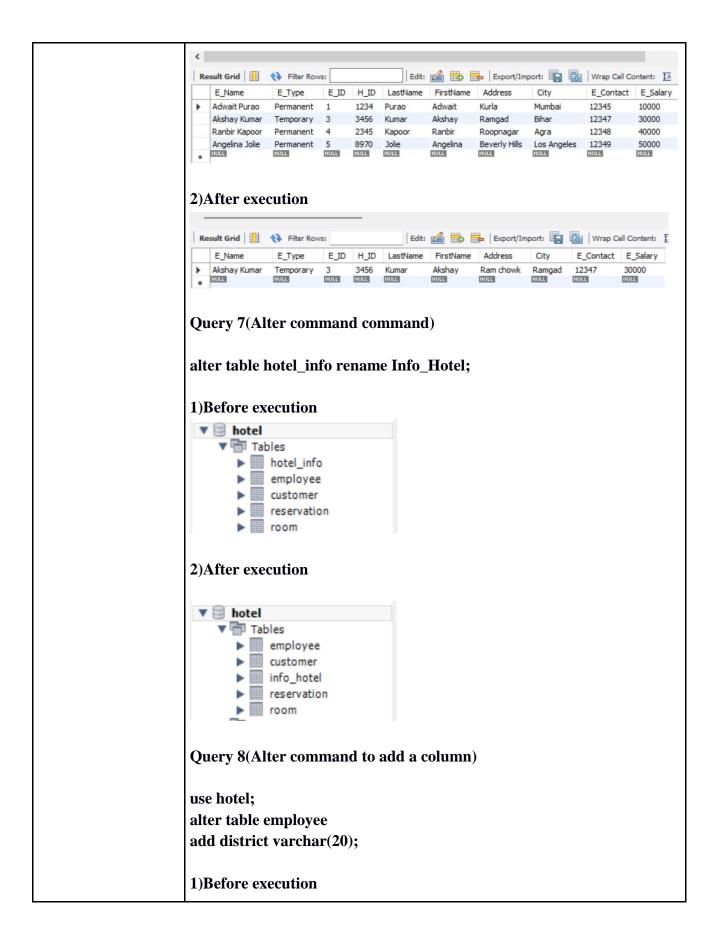
select \* from reservation
where not Reservation\_no=2;

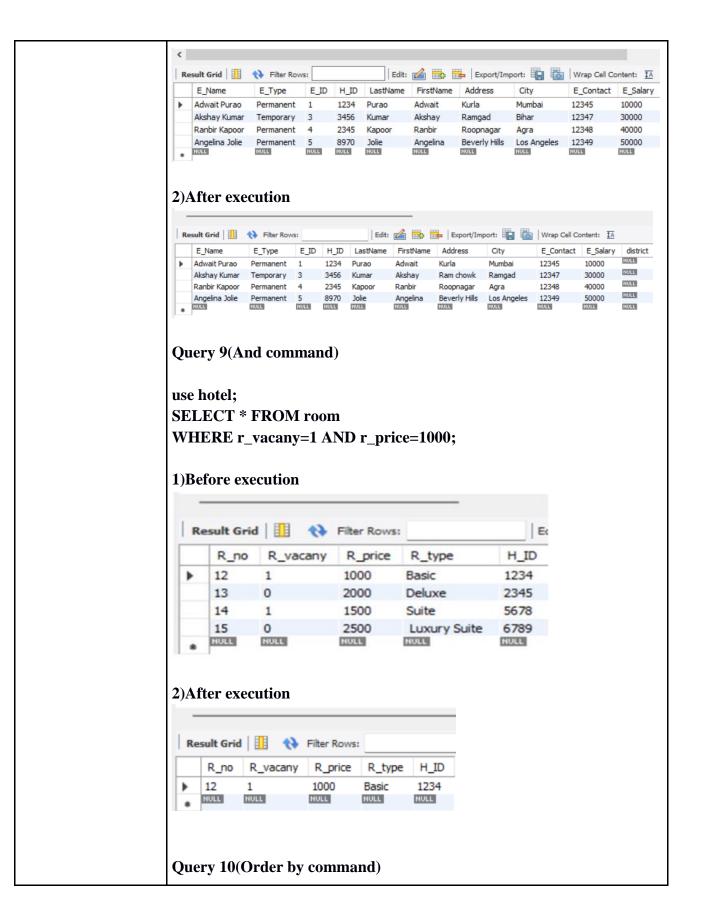
### 1)Before execution



#### 2)After execution

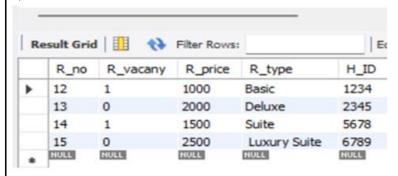




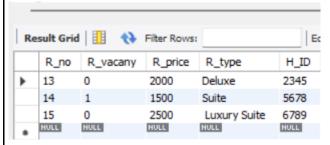


use hotel; SELECT \* FROM room where r\_price>1200 order by r\_no;

## 1)Before execution



# 2)After execution

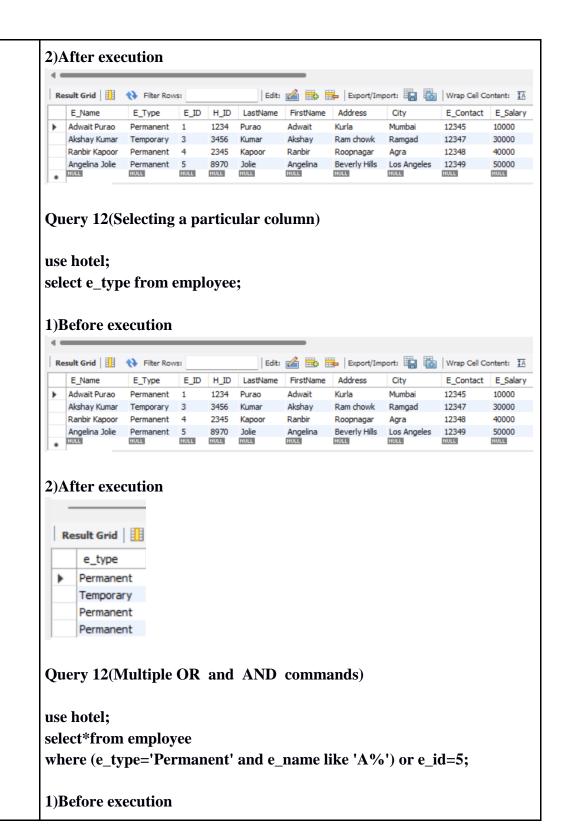


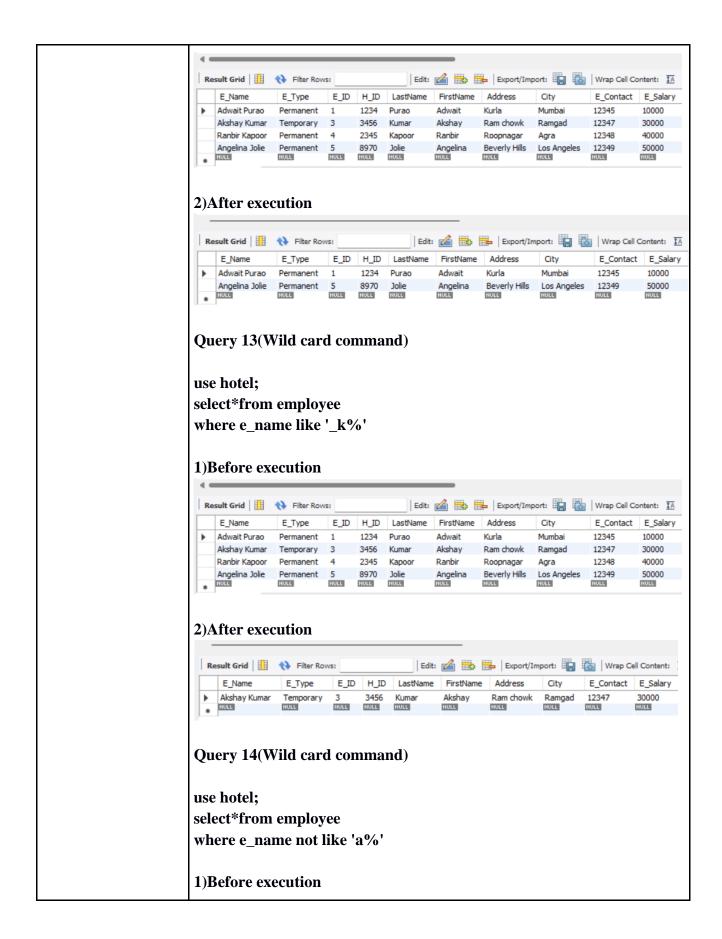
# Query 11(Drop command)

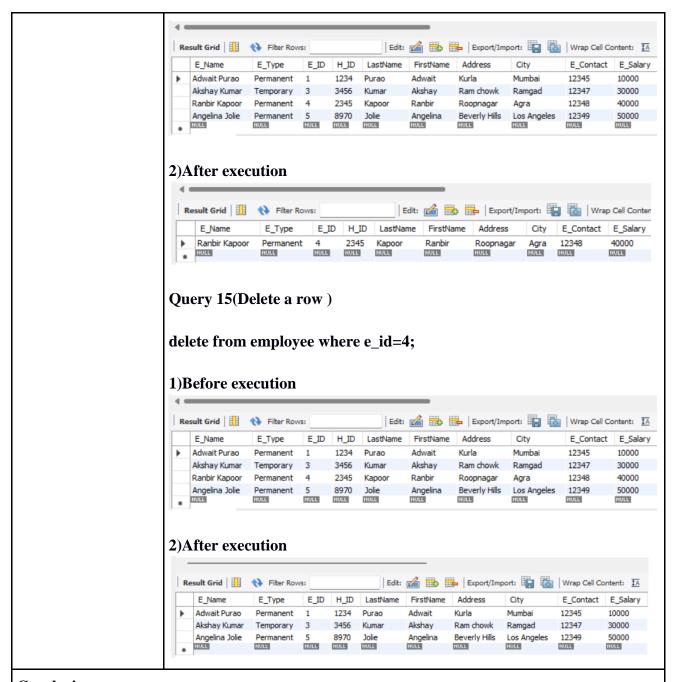
use hotel; alter table employee drop district

## 1)Before execution









## Conclusion

This experiment helped me learn various commands of DML(Data Manipulation language) like select \* from, set, where, update, alter, and, or, not, add, delete, like, drop,% etc. Using these commands database for Hotel system is prepared. The experiment helped to learn about the handling the data and to filter and retrieve the data according to the need. I also learned how to operate MySQL Workbench software.

