Phase 04

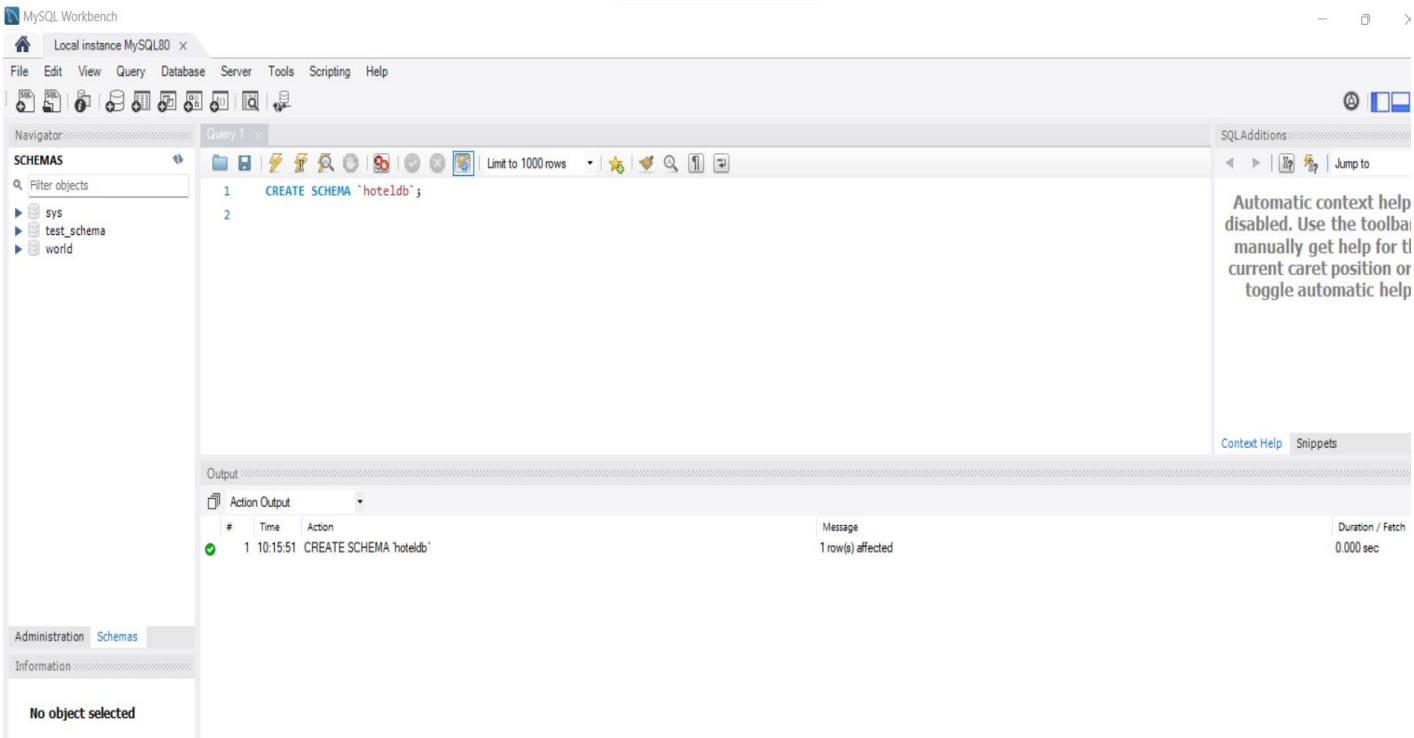
SQL definition commands in MySQL Workbench:

Create Database using CREATE SCHEMA:

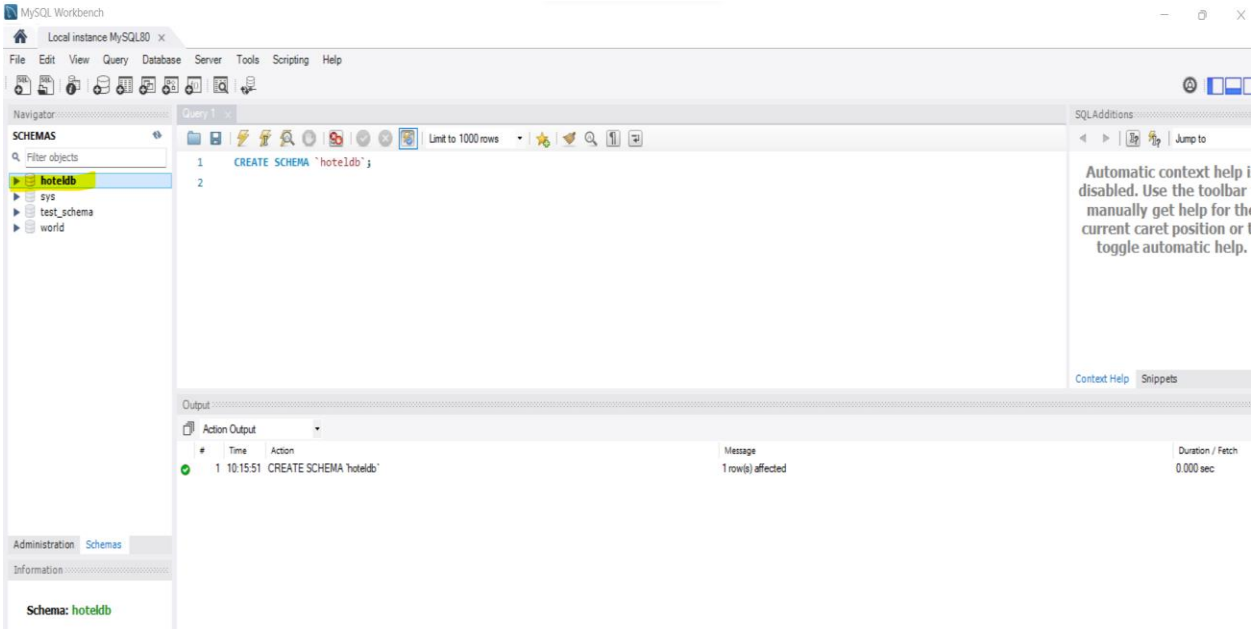
Database name is hoteldb. Following the SQL query to create schema.

```
CREATE SCHEMA `hoteldb ` ;
```

Below is the screen shot of MySQL Workbench to create schema.



Following screen shot shows created schema in MySQL Workbench.



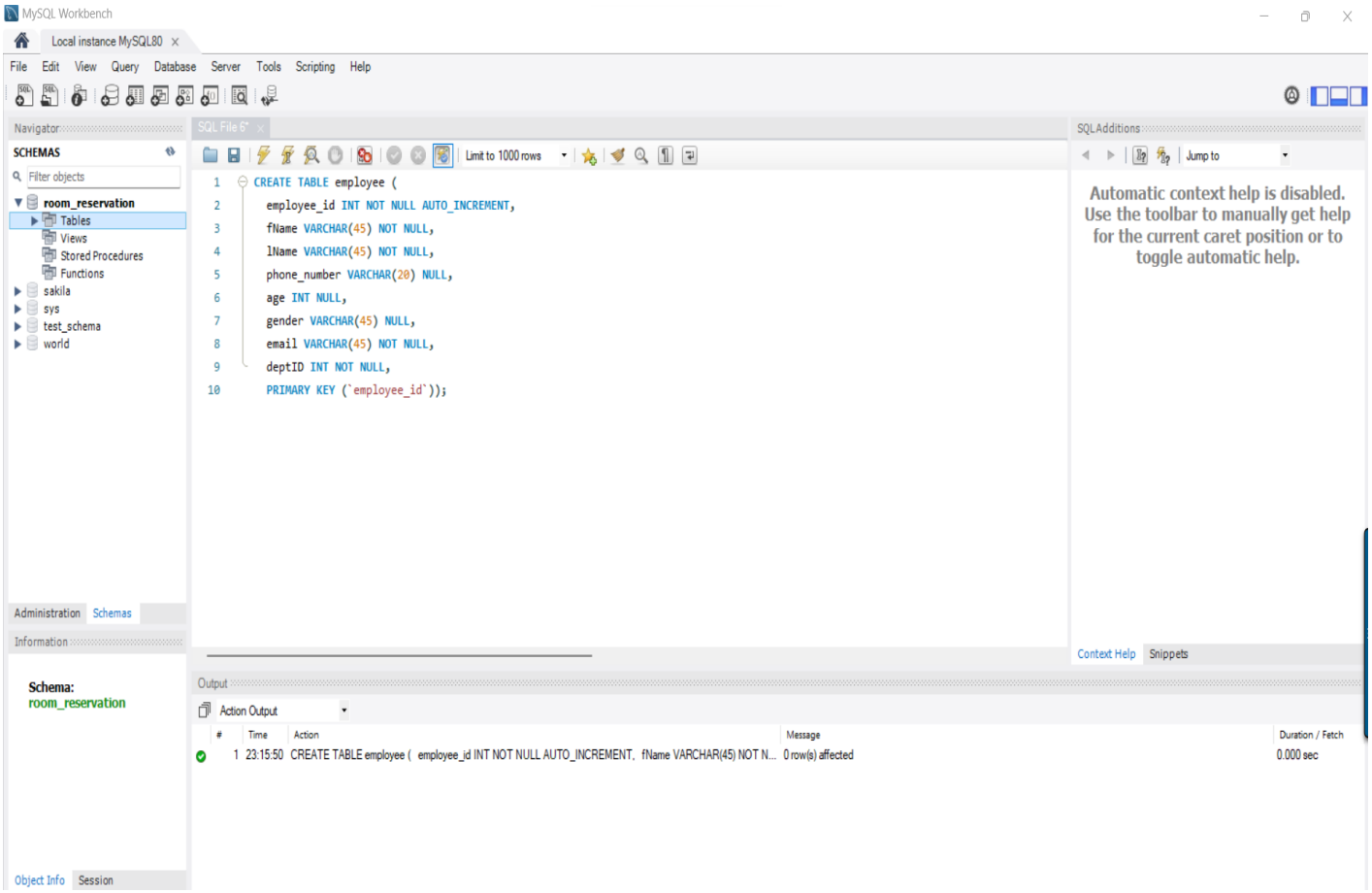
Schema tables using CREATE TABLE.

Create Employee Table:

Following is the create employee table script:

```
CREATE TABLE employee (
 employee_id INT NOT NULL AUTO_INCREMENT,
 fName VARCHAR(45) NOT NULL,
 lName VARCHAR(45) NOT NULL,
 phone_number VARCHAR(20) NULL,
 age INT NULL,
 gender VARCHAR(45) NULL,
 email VARCHAR(45) NOT NULL,
 deptID INT NOT NULL,
 PRIMARY KEY (`employee_id`));
```

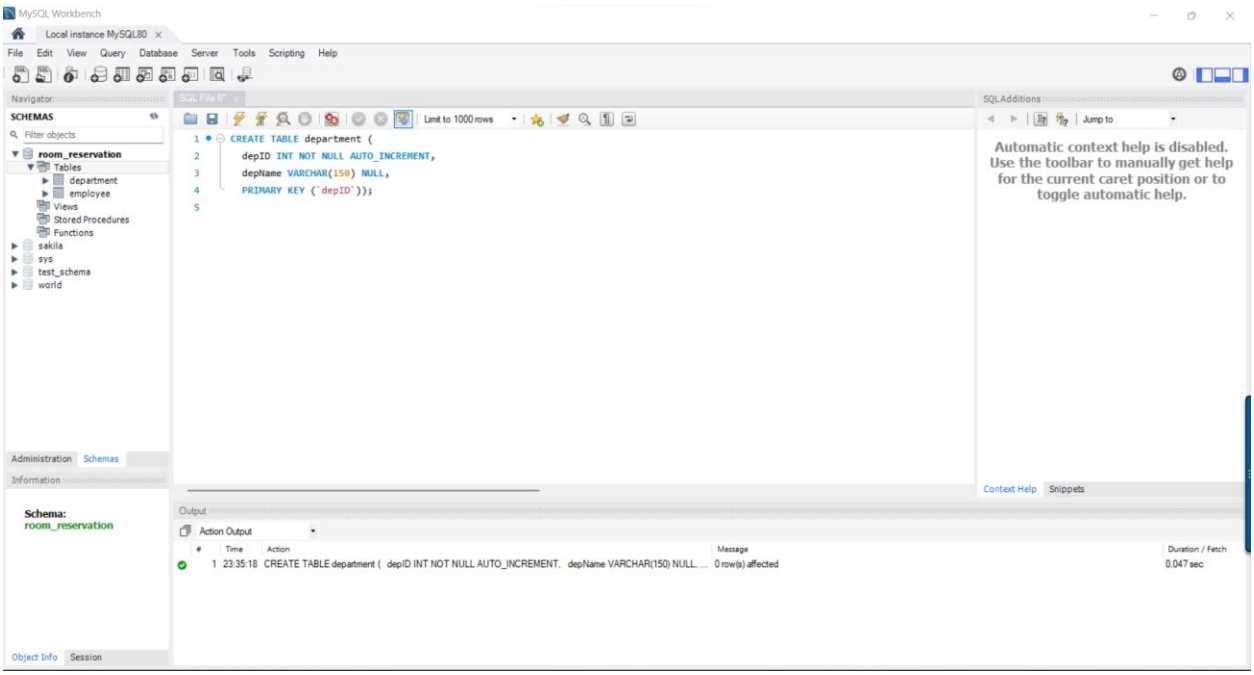
Below is the Wokbench screen shot for create employee table.



Department Table:

```
CREATE TABLE department (
 depID INT NOT NULL AUTO_INCREMENT,
 depName VARCHAR(150) NULL,
 PRIMARY KEY (`depID`));
```

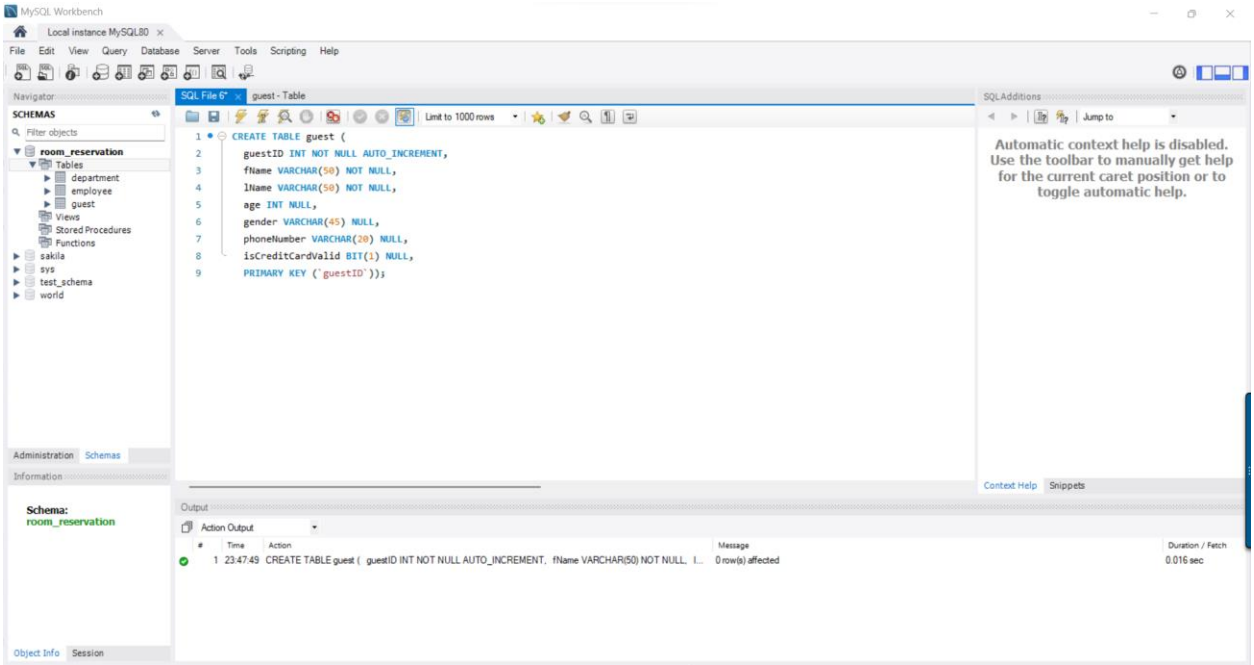
Following screen shot is MySQL workbench to create department table.



Create Guest Table:

```
CREATE TABLE guest (
 guestID INT NOT NULL AUTO_INCREMENT,
 fName VARCHAR(50) NOT NULL,
 lName VARCHAR(50) NOT NULL,
 age INT NULL,
 gender VARCHAR(45) NULL,
 phoneNumber VARCHAR(20) NULL,
 isCreditCardValid BIT(1) NULL,
 PRIMARY KEY (`guestID`));
```

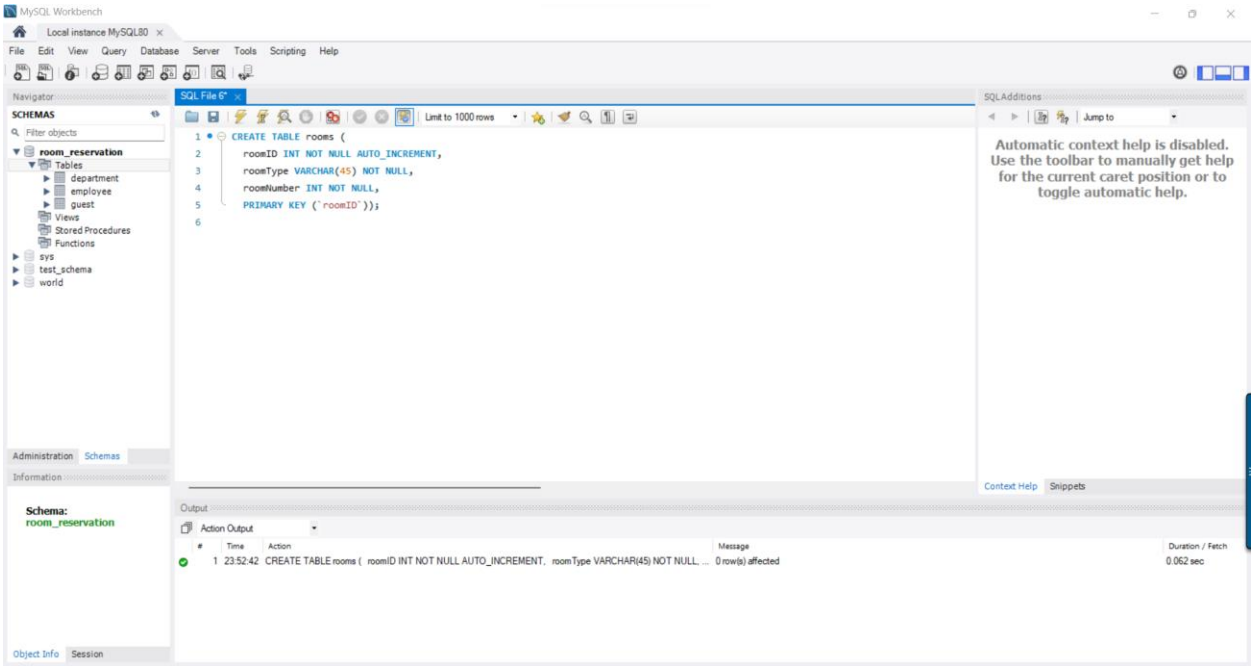
Below is MySQL Workbench screen shot.



Create Rooms table:

```
CREATE TABLE rooms (
 roomID INT NOT NULL AUTO_INCREMENT,
 roomType VARCHAR(45) NOT NULL,
 roomNumber INT NOT NULL,
 PRIMARY KEY (`roomID`));
```

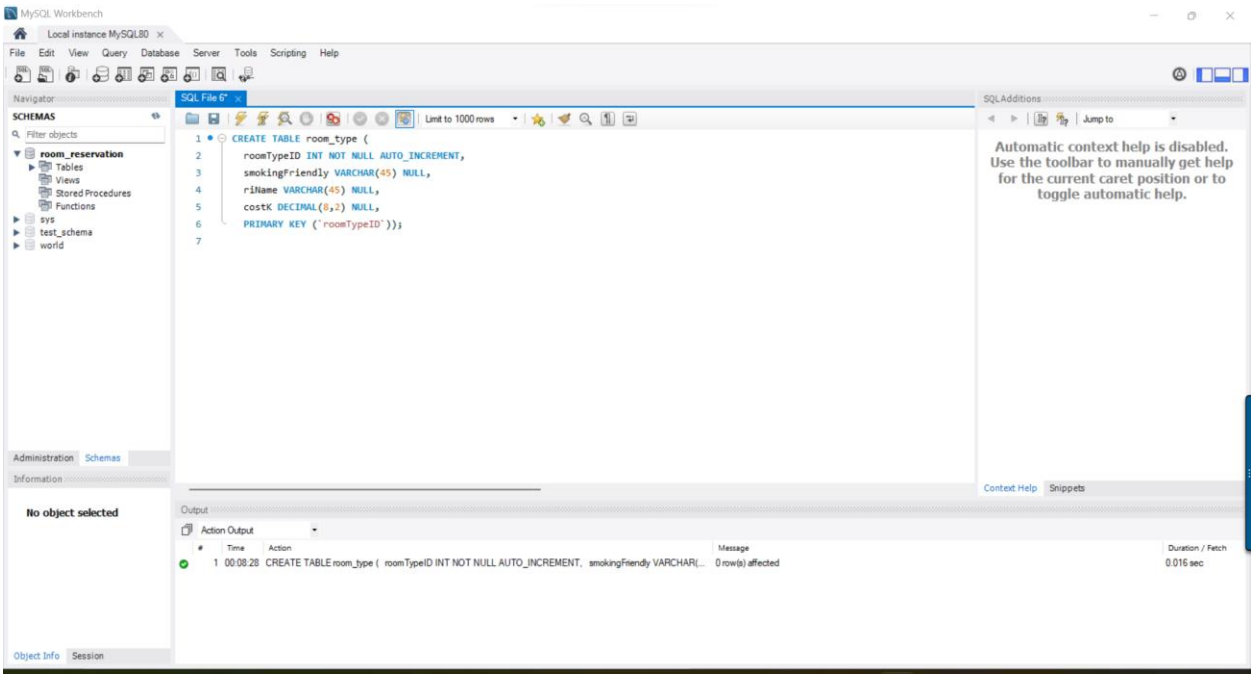
Following is MySQL Workbench screen shot.



Create RoomType table:

```
CREATE TABLE room_type (
 roomTypeID INT NOT NULL AUTO_INCREMENT,
 smokingFriendly VARCHAR(45) NULL,
 riName VARCHAR(45) NULL,
 costK DECIMAL(8,2) NULL,
 PRIMARY KEY (`roomTypeID`));
```

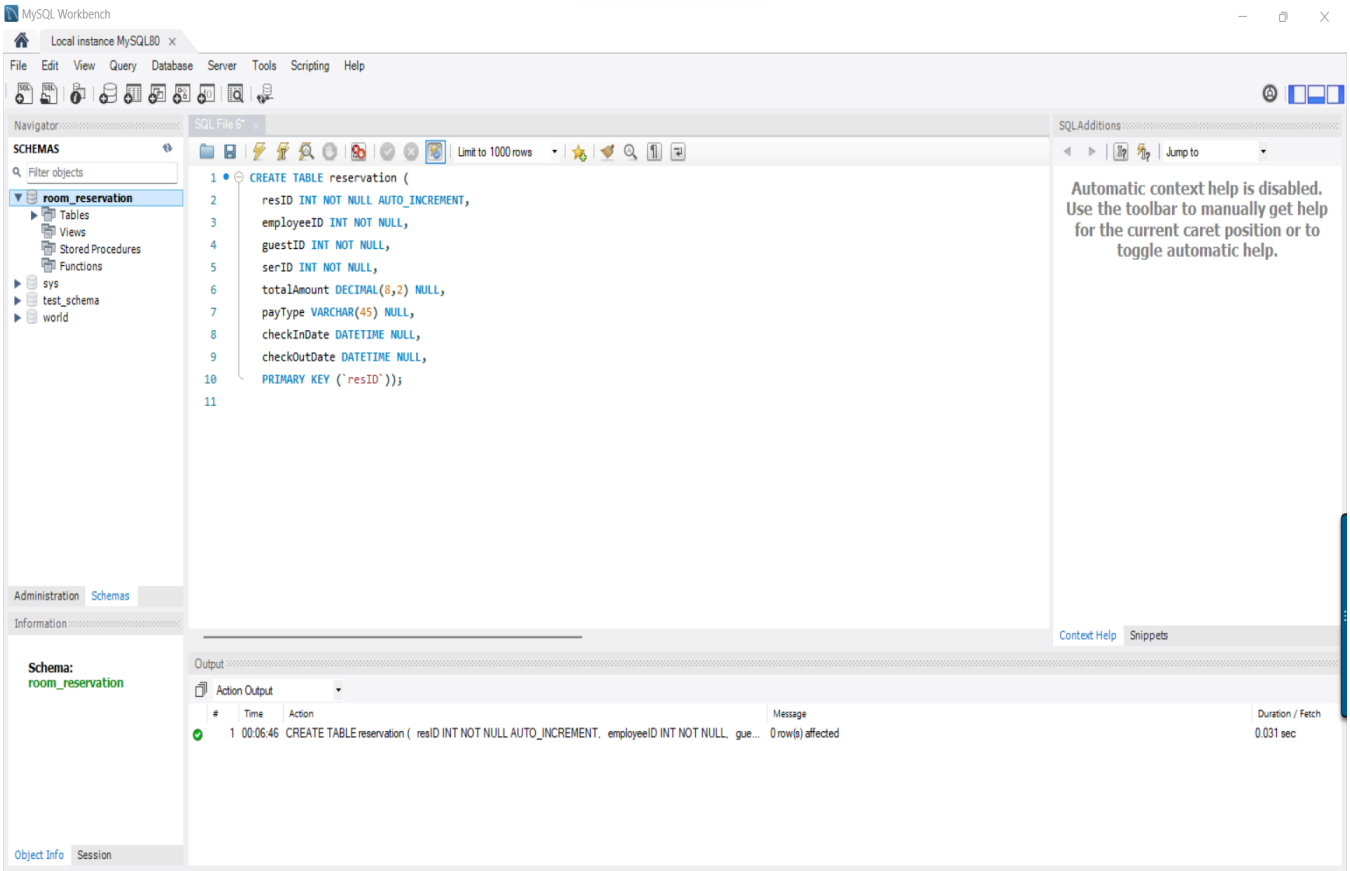
Following is MySQL Workbench screen shot.



Create Reservation Table:

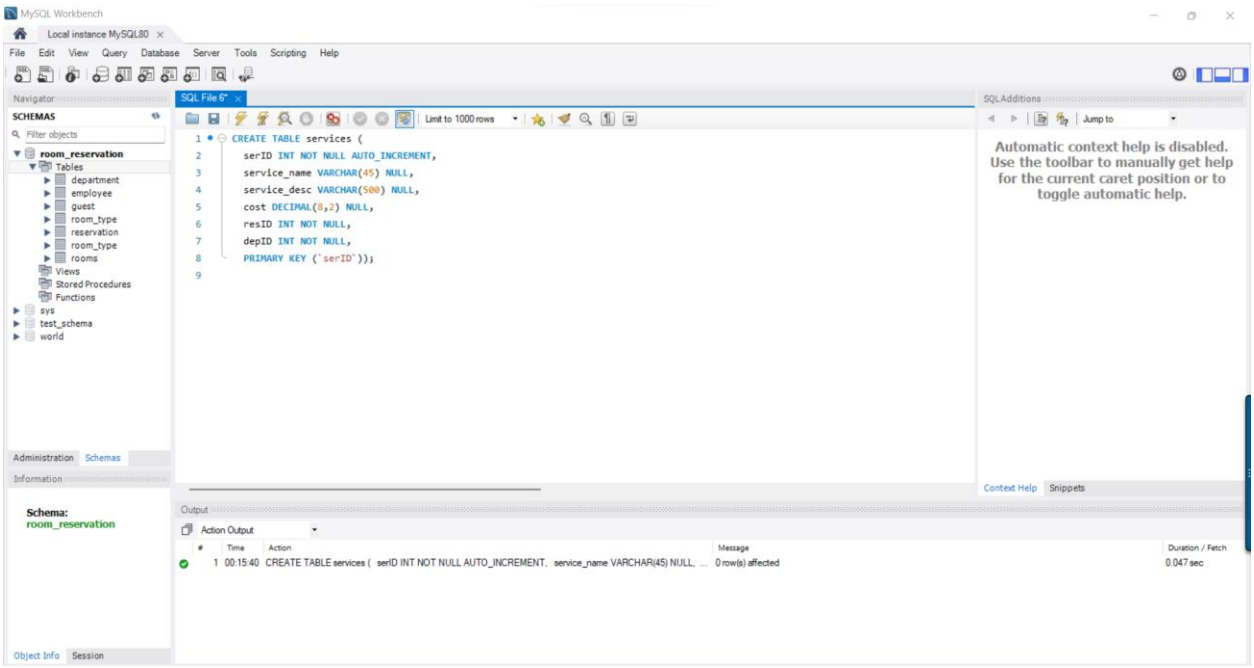
```
CREATE TABLE reservation (
 resID INT NOT NULL AUTO_INCREMENT,
 employeeID INT NOT NULL,
 guestID INT NOT NULL,
 serID INT NOT NULL,
 totalAmount DECIMAL(8,2) NULL,
 payType VARCHAR(45) NULL,
 checkInDate DATETIME NULL,
 checkOutDate DATETIME NULL,
 PRIMARY KEY (`resID`));
```

Following is MySQL Workbench screen shot.



Create Services table:

```
CREATE TABLE services (
 serID INT NOT NULL AUTO_INCREMENT,
 service_name VARCHAR(45) NULL,
 service_desc VARCHAR(500) NULL,
 cost DECIMAL(8,2) NULL,
 resID INT NOT NULL,
 depID INT NOT NULL,
 PRIMARY KEY (`serID`));
```



SQL data manipulation commands:

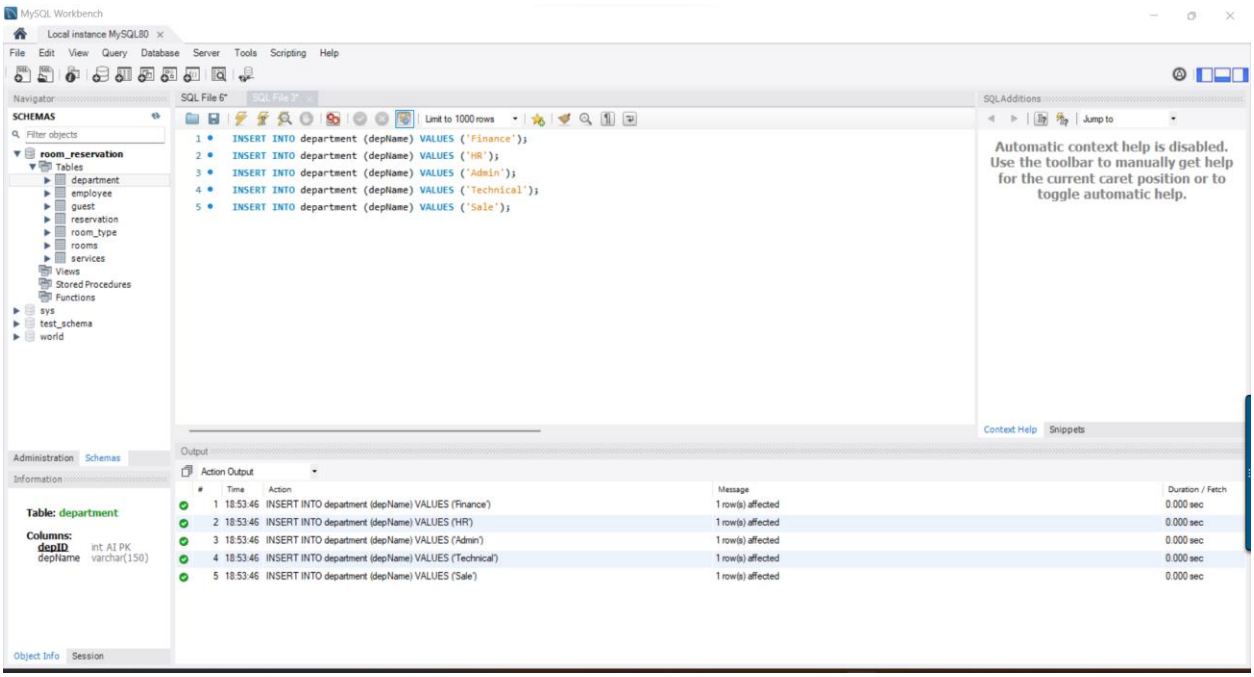
INSERT Commands / Queries:

Insert command for Department Table:

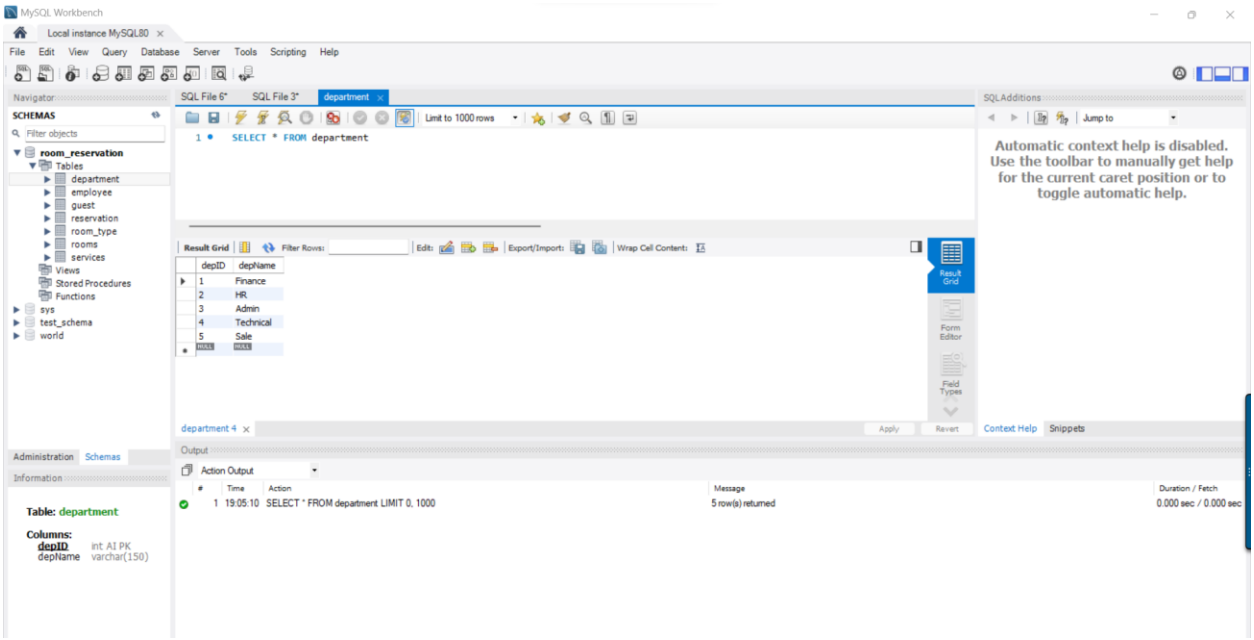
Here are five queries/command to insert five records in table.

```
INSERT INTO department (depName) VALUES ('Finance');

INSERT INTO department (depName) VALUES ('HR');

INSERT INTO department (depName) VALUES ('Admin');

INSERT INTO department (depName) VALUES ('Technical');

INSERT INTO department (depName) VALUES ('Sale');
```

Below is the MySQL Workbench screen shot.



Following screen shot shows five inserted records in department table.



Insert command for Employee Table:

```
INSERT INTO employee (fName, lName, phone_number, age, gender, email, deptID)
VALUES ('Ayaan', 'Ayan', '+9663331234567', 22, 'Male', 'email1@domain.com', 1);
```

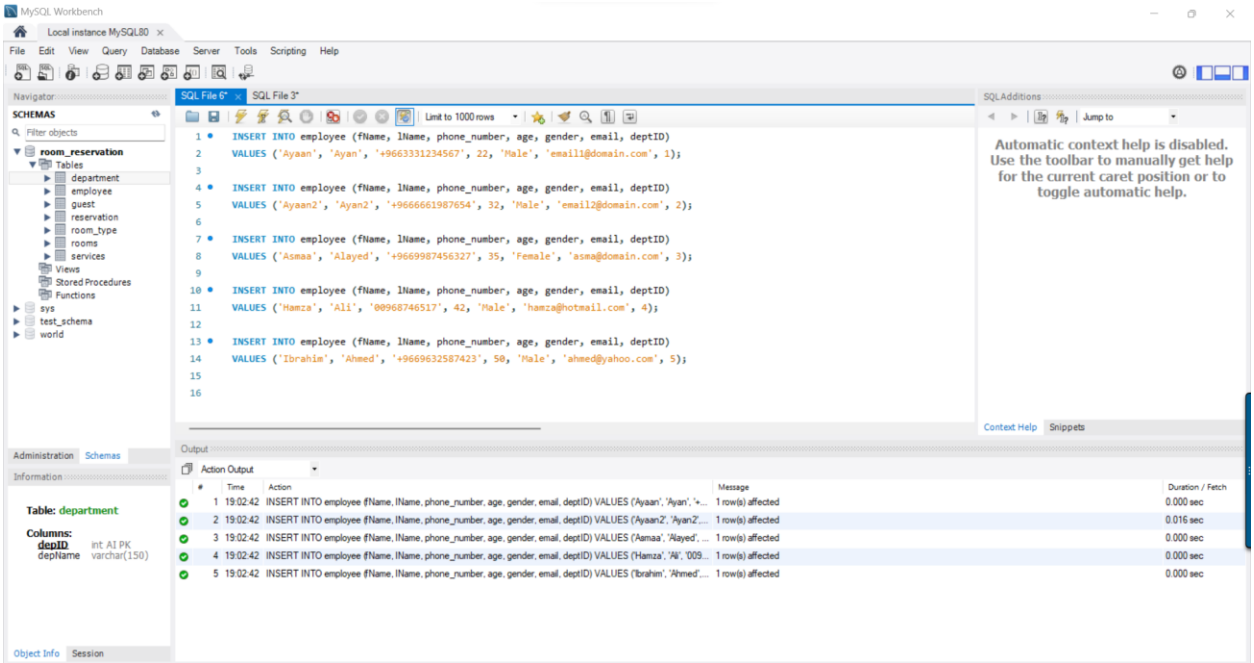
```
INSERT INTO employee (fName, lName, phone_number, age, gender, email, deptID)
VALUES ('Ayaan2', 'Ayan2', '+9666661987654', 32, 'Male', 'email2@domain.com', 2);
```

```
INSERT INTO employee (fName, lName, phone_number, age, gender, email, deptID)
VALUES ('Asmaa', 'Alayed', '+9669987456327', 35, 'Female', 'asma@domain.com', 3);
```

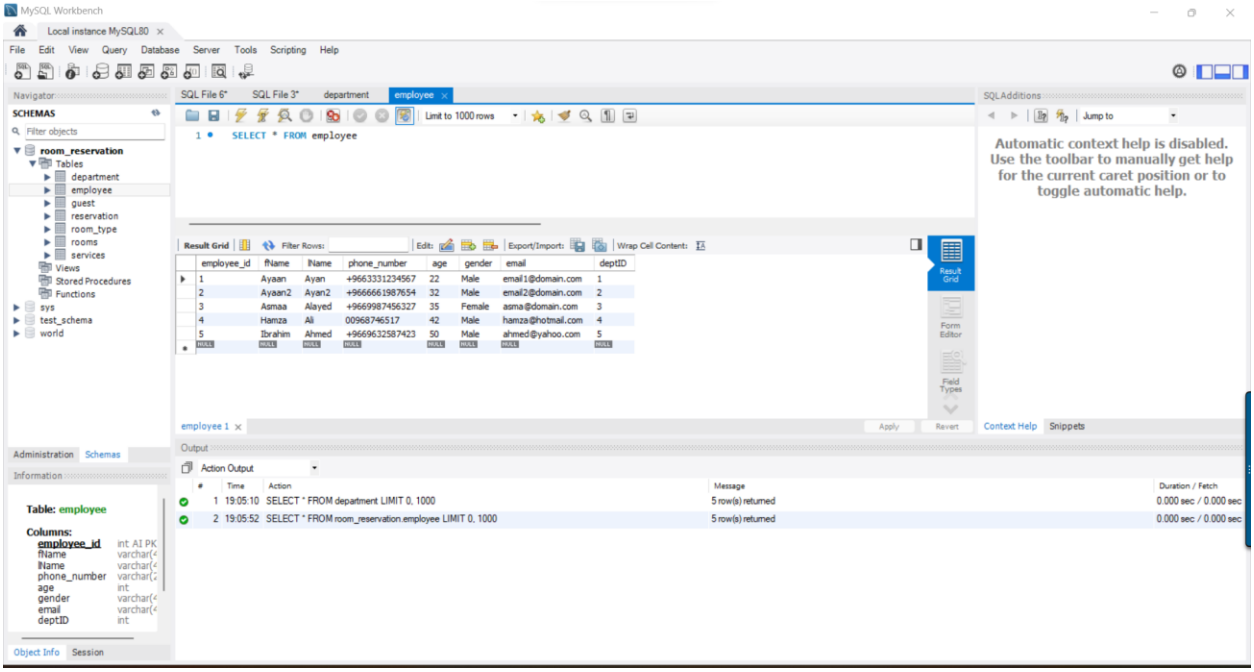
```
INSERT INTO employee (fName, lName, phone_number, age, gender, email, deptID)
VALUES ('Hamza', 'Ali', '00968746517', 42, 'Male', 'hamza@hotmail.com', 4);
```

```
INSERT INTO employee (fName, lName, phone_number, age, gender, email, deptID)
VALUES ('Ibrahim', 'Ahmed', '+9669632587423', 50, 'Male', 'ahmed@yahoo.com', 5);
```

Below screen shot shows insert commands for employee table.



Following screen shot shows five inserted records in employee table.



INSERT Commands for Guest Table:

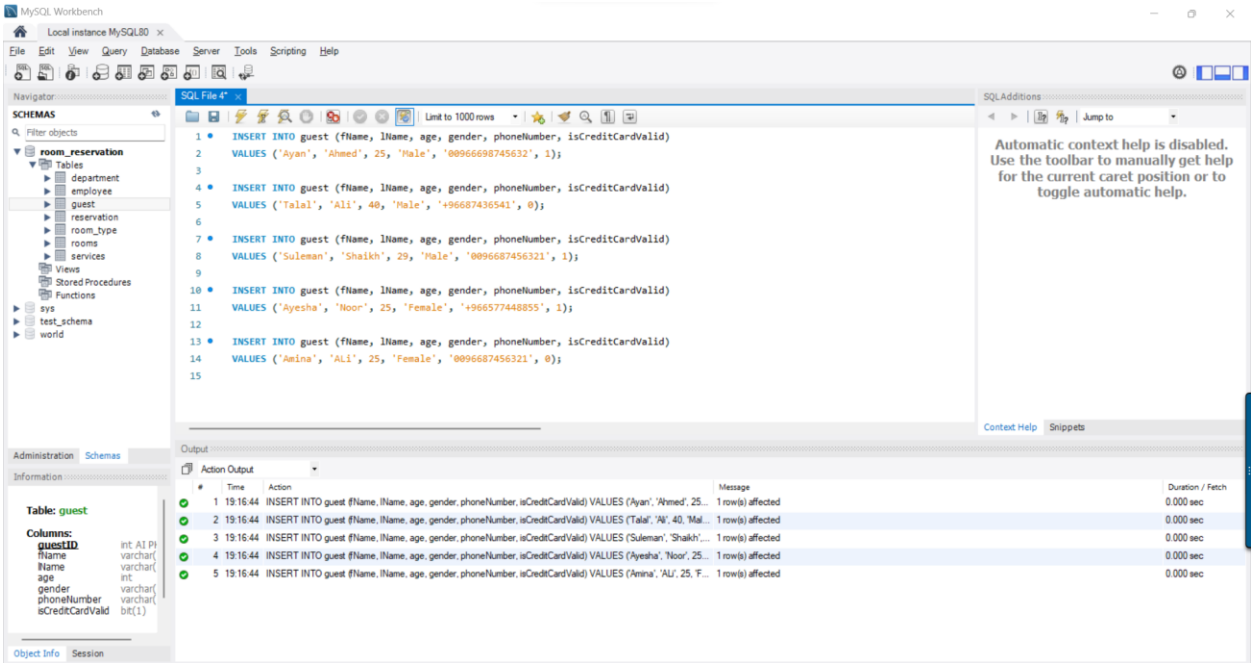
```
INSERT INTO guest (fName, lName, age, gender, phoneNumber, isCreditCardValid)
VALUES ('Ayan', 'Ahmed', 25, 'Male', '00966698745632', 1);
```

```
INSERT INTO guest (fName, lName, age, gender, phoneNumber, isCreditCardValid)
VALUES ('Talal', 'Ali', 40, 'Male', '+96687436541', 0);
```

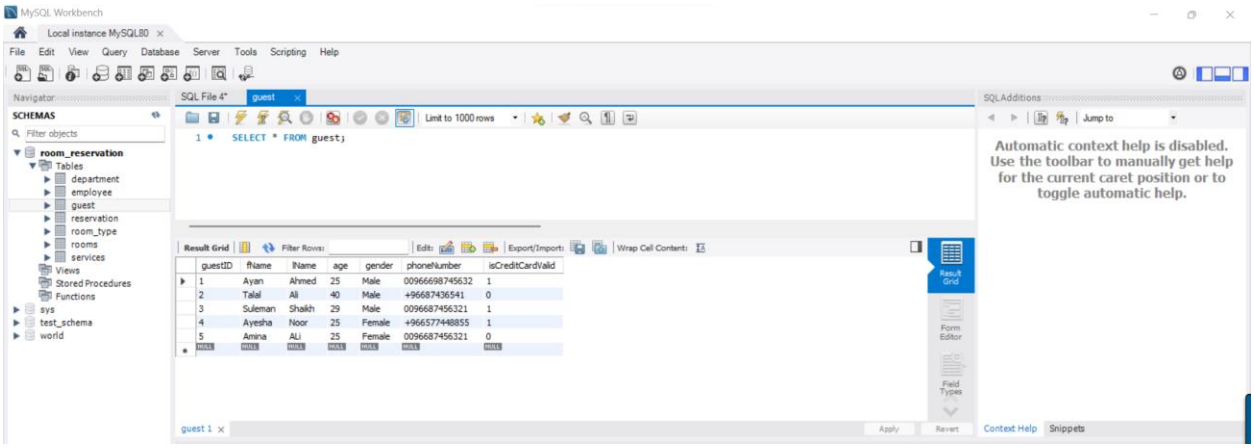
```
INSERT INTO guest (fName, lName, age, gender, phoneNumber, isCreditCardValid)
VALUES ('Suleman', 'Shaikh', 29, 'Male', '0096687456321', 1);
```

```
INSERT INTO guest (fName, lName, age, gender, phoneNumber, isCreditCardValid)
VALUES ('Ayesha', 'Noor', 25, 'Female', '+966577448855', 1);
```

```
INSERT INTO guest (fName, lName, age, gender, phoneNumber, isCreditCardValid)
VALUES ('Amina', 'ALi', 25, 'Female', '0096687456321', 0);
```



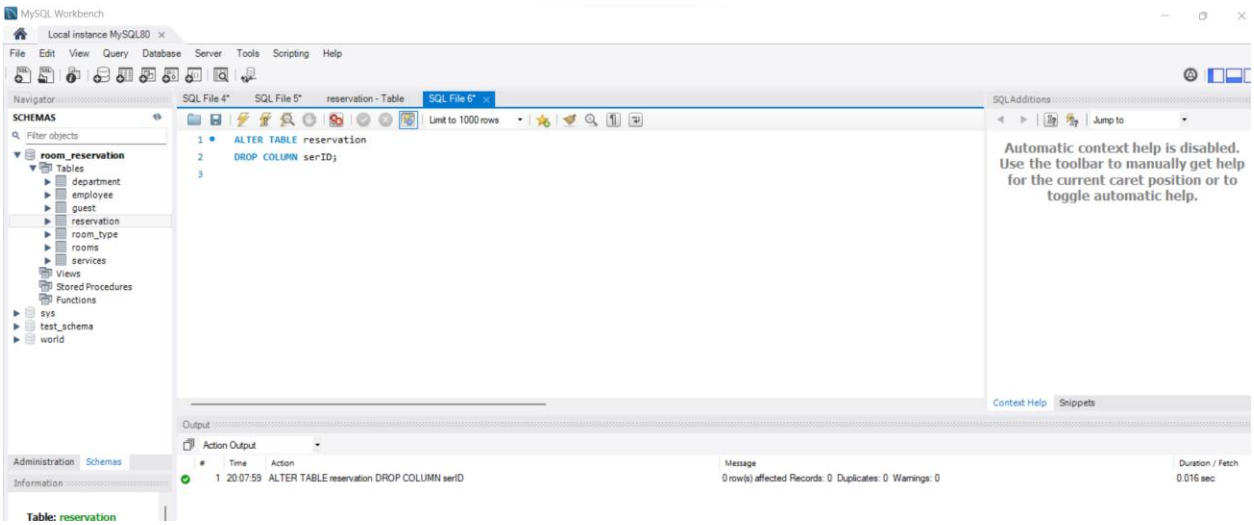
Following screen shot shows five inserted records in guest table.



Reservation Table:

There is no need for serID column in this table because this table primary key is foreign key of service table, so dropping the serID column from reservation table.

```
ALTER TABLE reservation

DROP COLUMN serID;
```



INSERT Commands to insert data in reservation table.

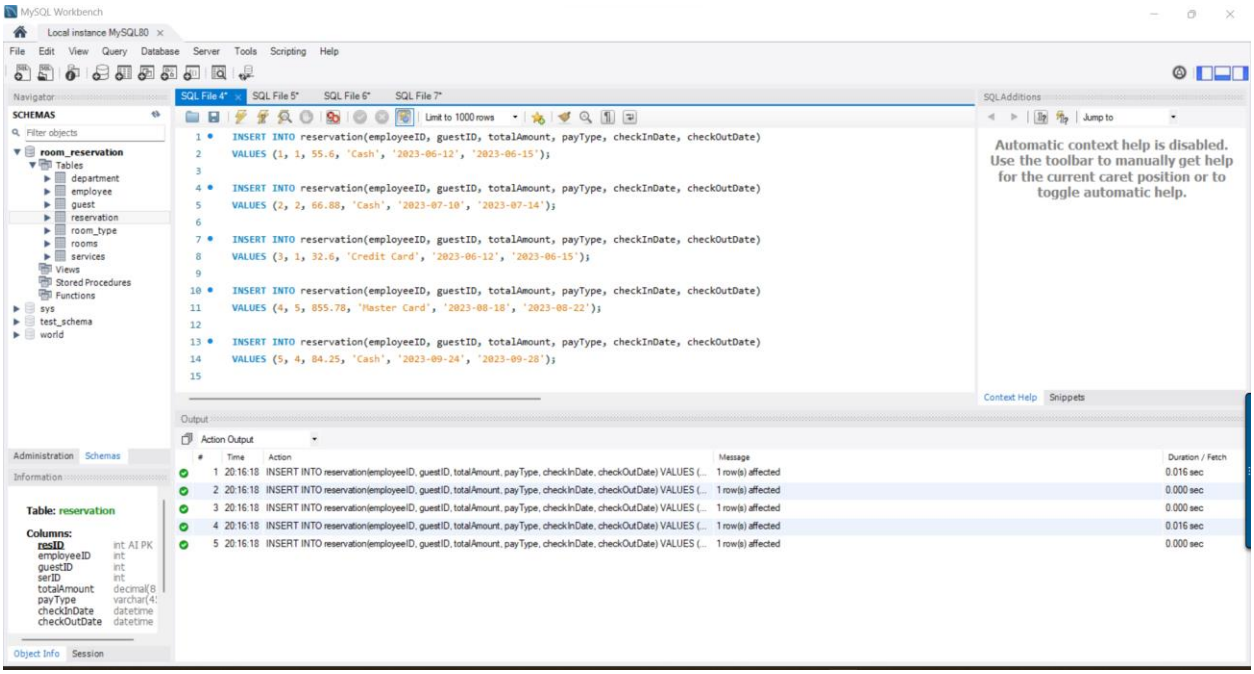
```
INSERT INTO reservation(employeeID, guestID, totalAmount, payType, checkInDate, checkOutDate)

VALUES (1, 1, 55.6, 'Cash', '2023-06-12', '2023-06-15');
```

```
INSERT INTO reservation(employeeID, guestID, totalAmount, payType, checkInDate, checkOutDate)

VALUES (2, 2, 66.88, 'Cash', '2023-07-10', '2023-07-14');
```

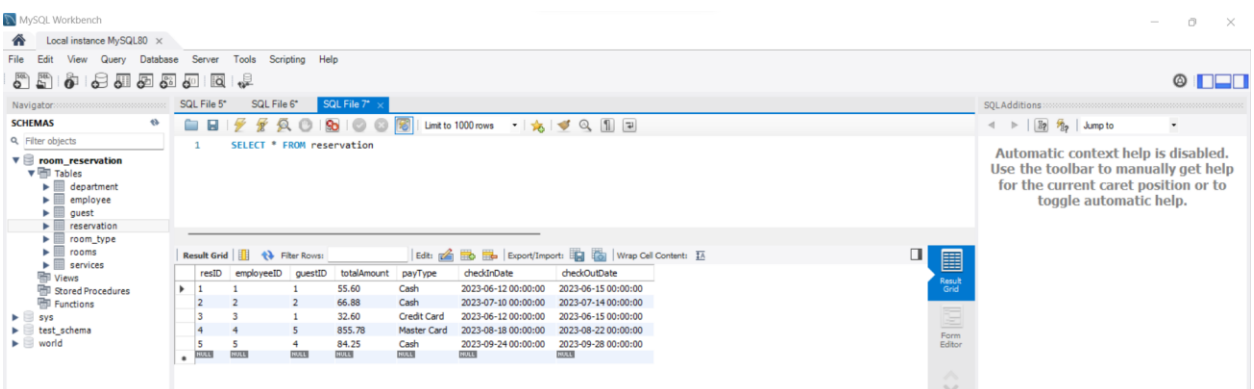
```
INSERT INTO reservation(employeeID, guestID, totalAmount, payType, checkInDate, checkOutDate)

VALUES (3, 1, 32.6, 'Credit Card', '2023-06-12', '2023-06-15');
```

```
INSERT INTO reservation(employeeID, guestID, totalAmount, payType, checkInDate, checkOutDate)

VALUES (4, 5, 855.78, 'Master Card', '2023-08-18', '2023-08-22');
```

```
INSERT INTO reservation(employeeID, guestID, totalAmount, payType, checkInDate, checkOutDate)

VALUES (5, 4, 84.25, 'Cash', '2023-09-24', '2023-09-28');
```



Following screen shot shows five inserted records in reservation table.



Services Table:

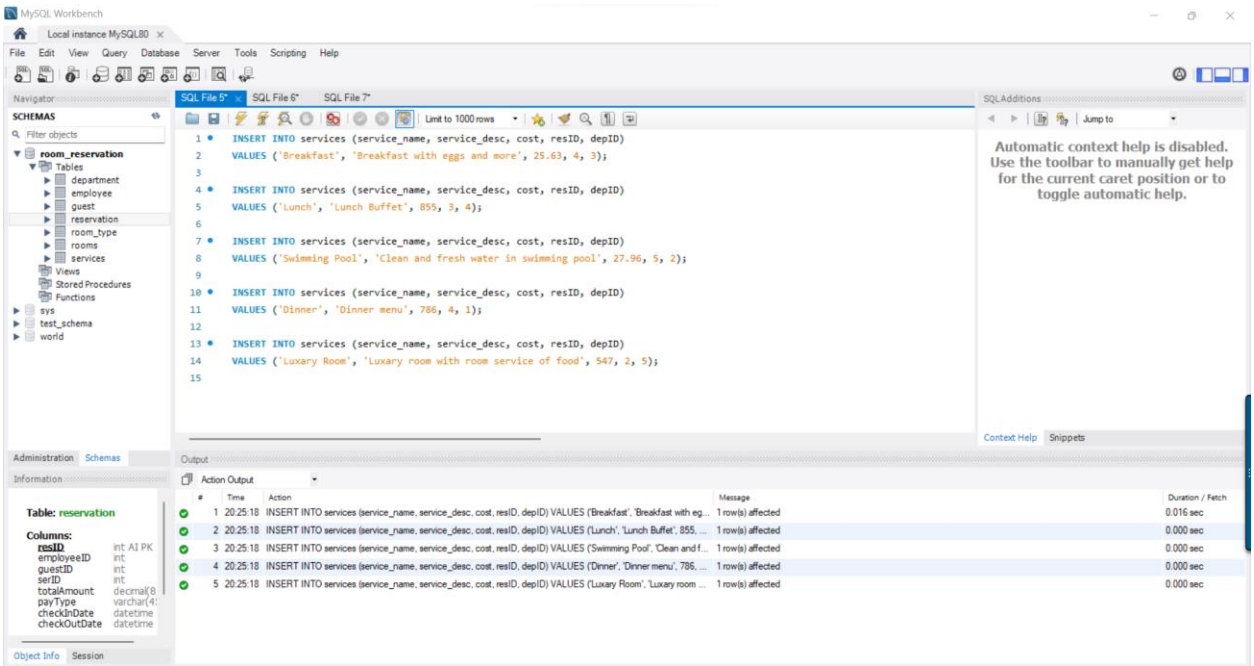
```
INSERT INTO services (service_name, service_desc, cost, resID, depID)
VALUES ('Breakfast', 'Breakfast with eggs and more', 25.63, 4, 3);
```

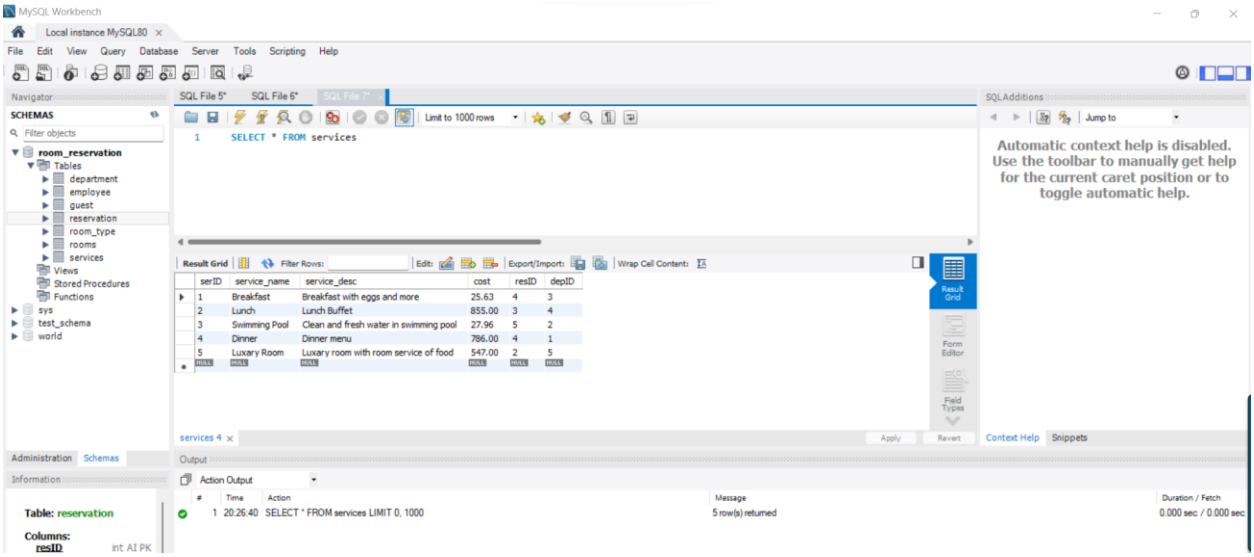
```
INSERT INTO services (service_name, service_desc, cost, resID, depID)
VALUES ('Lunch', 'Lunch Buffet', 855, 3, 4);
```

```
INSERT INTO services (service_name, service_desc, cost, resID, depID)
VALUES ('Swimming Pool', 'Clean and fresh water in swimming pool', 27.96, 5, 2);
```

```
INSERT INTO services (service_name, service_desc, cost, resID, depID)
VALUES ('Dinner', 'Dinner menu', 786, 4, 1);
```

```
INSERT INTO services (service_name, service_desc, cost, resID, depID)
VALUES ('Luxary Room', 'Luxary room with room service of food', 547, 2, 5);
```





Insert commands for RoomType Table:

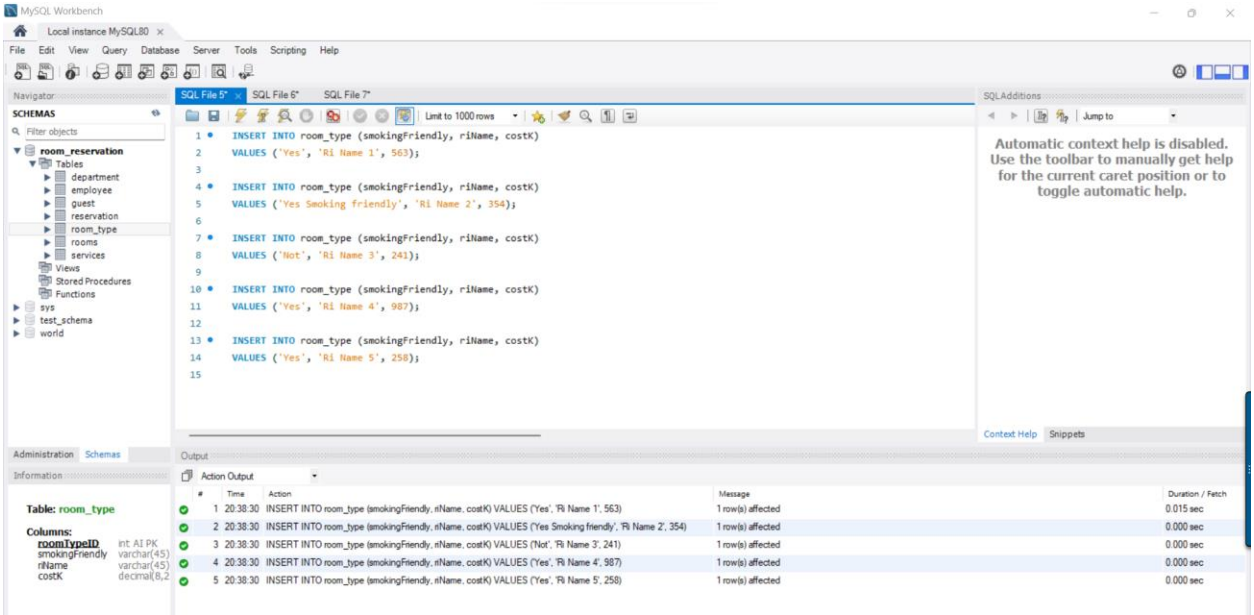
```
INSERT INTO room_type (smokingFriendly, riName, costK)
VALUES ('Yes', 'Ri Name 1', 563);
```

```
INSERT INTO room_type (smokingFriendly, riName, costK)
VALUES ('Yes Smoking friendly', 'Ri Name 2', 354);
```

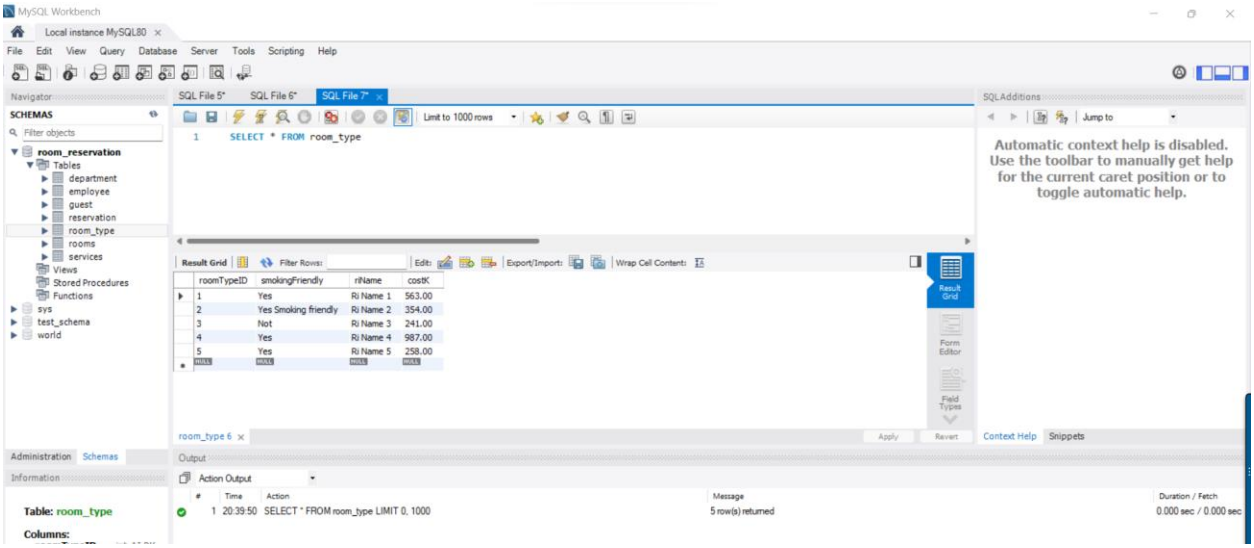
```
INSERT INTO room_type (smokingFriendly, riName, costK)
VALUES ('Not', 'Ri Name 3', 241);
```

```
INSERT INTO room_type (smokingFriendly, riName, costK)
VALUES ('Yes', 'Ri Name 4', 987);
```

```
INSERT INTO room_type (smokingFriendly, riName, costK)
VALUES ('Yes', 'Ri Name 5', 258);
```



Below screen shot shows room_type table records.



Insert commands for Rooms Table:

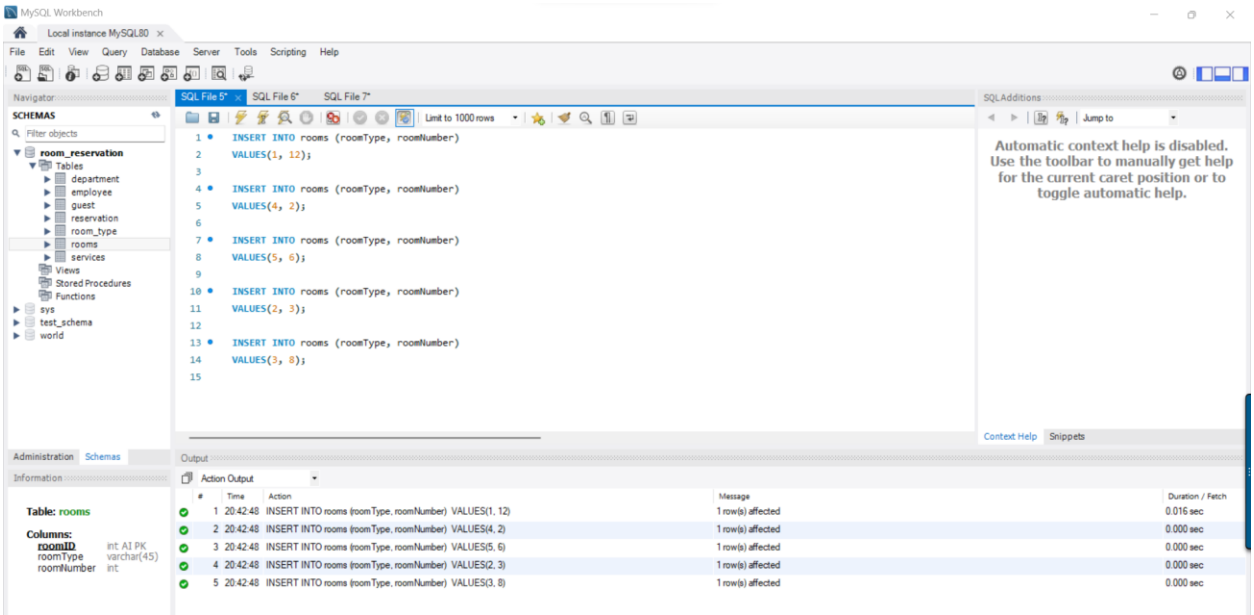
```
INSERT INTO rooms (roomType, roomNumber)

VALUES(1, 12);
```

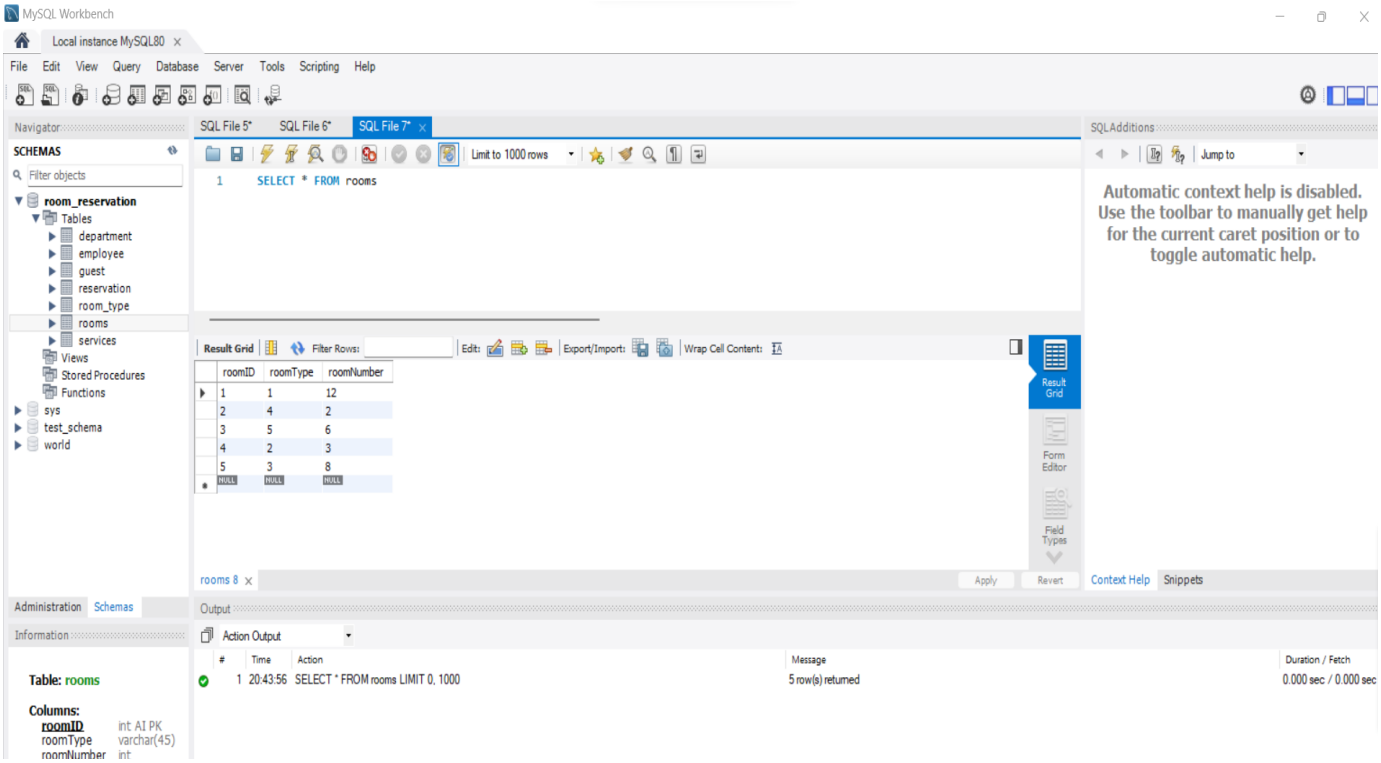
```
INSERT INTO rooms (roomType, roomNumber)
VALUES(4, 2);
```

```
INSERT INTO rooms (roomType, roomNumber)
VALUES(5, 6);
```

```
INSERT INTO rooms (roomType, roomNumber)
VALUES(2, 3);
```

```
INSERT INTO rooms (roomType, roomNumber)
VALUES(3, 8);
```





UPDATE Queries/Commands:

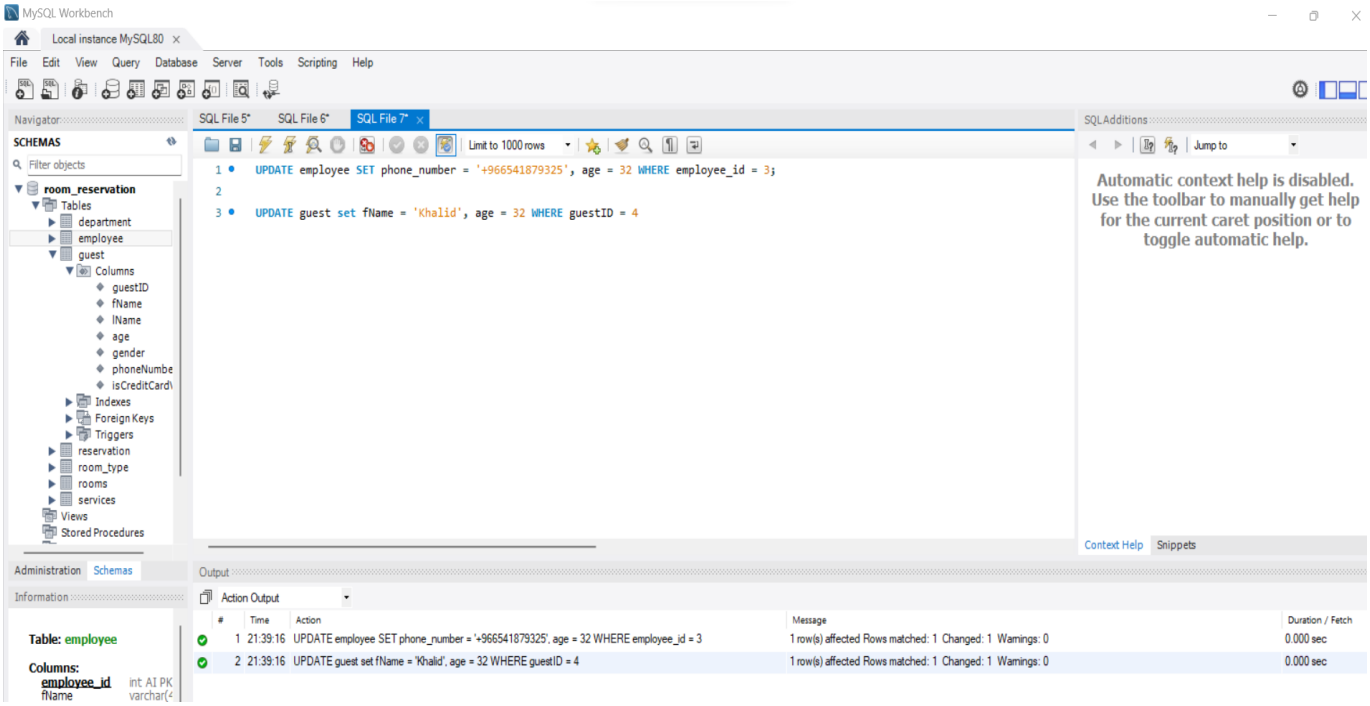
Following is the UPDATE Query which updates/edit phone number and age of employee with employee_Id equal to 3.

```
UPDATE employee SET phone_number = '+966541879325', age = 32 WHERE employee_id = 3;
```

Update guest table.

```
UPDATE guest set fName = 'Khalid', age = 32 WHERE guestID = 4
```

Below is MySQL Workbench screen shot for update queries.



DELETE Commands:

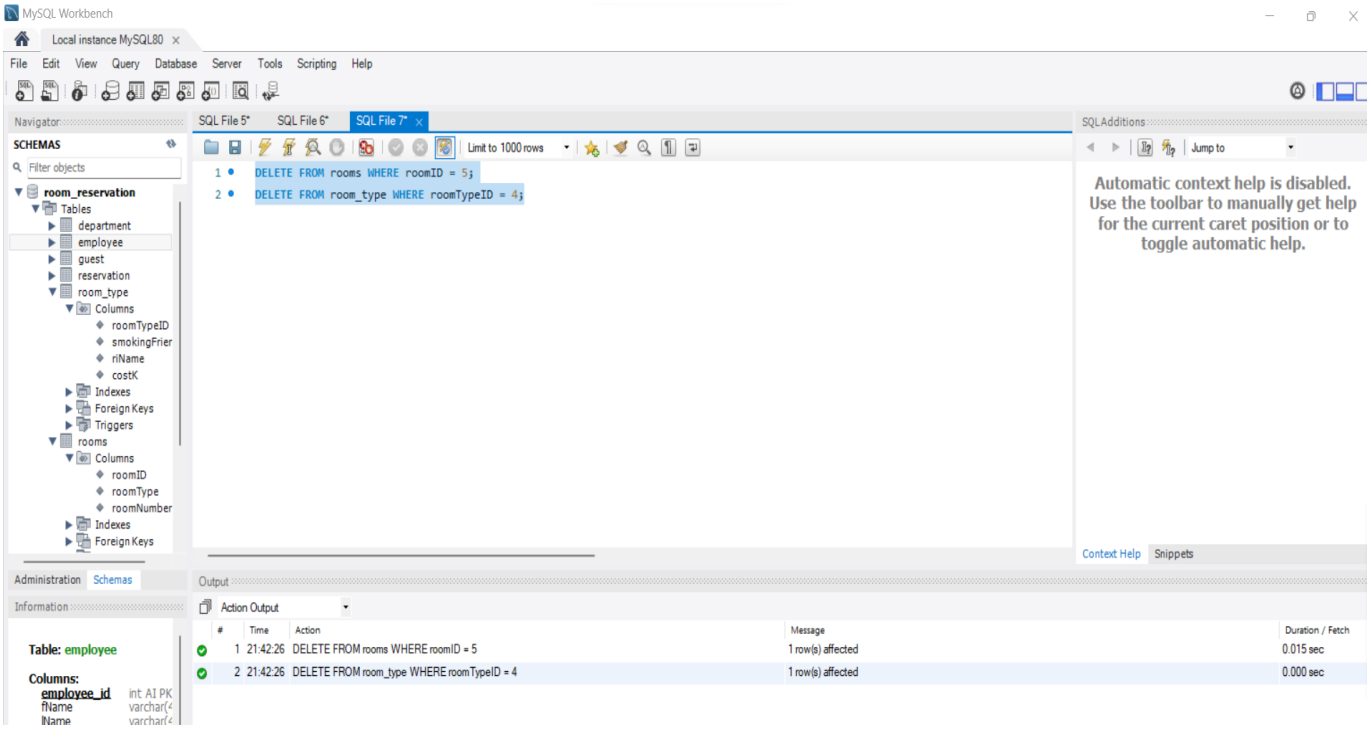
Following query Delete the record of rooms table where roomId is equal to five.

```
DELETE FROM rooms WHERE roomID = 5;
```

Below query delete the record from room_type table whereroomTypeID is equal to four.

```
DELETE FROM room_type WHERE roomTypeID = 4;
```

Below is the MySQL Workbench screen shot.

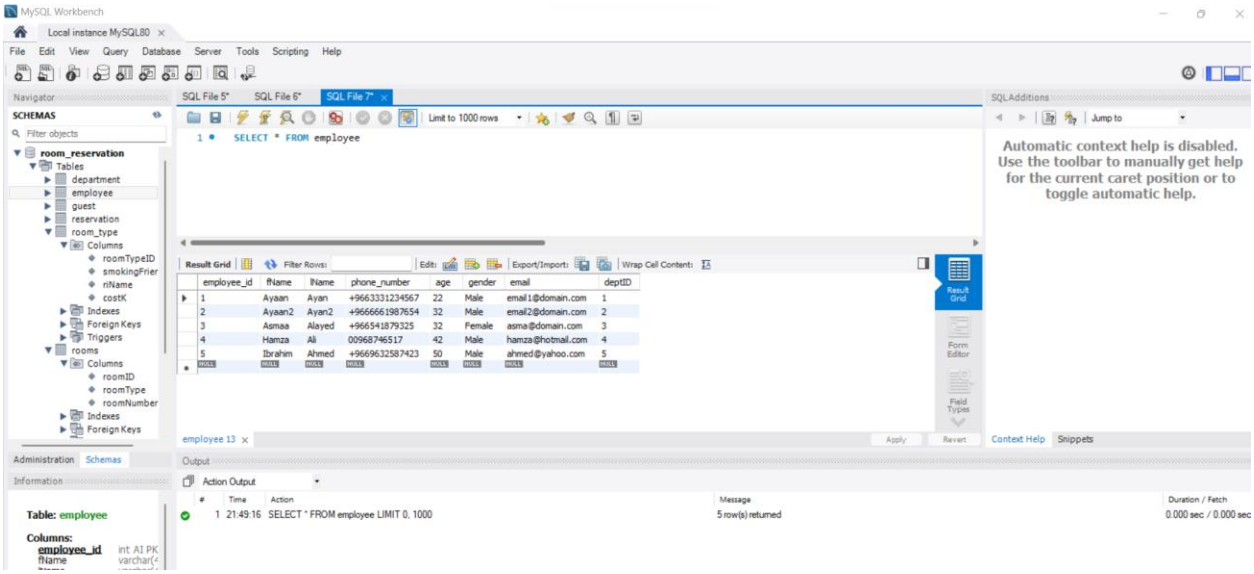


SQL Queries using SELECT command:

SELECT all columns and records command:

Following query retrieve all columns and rows of employee table.

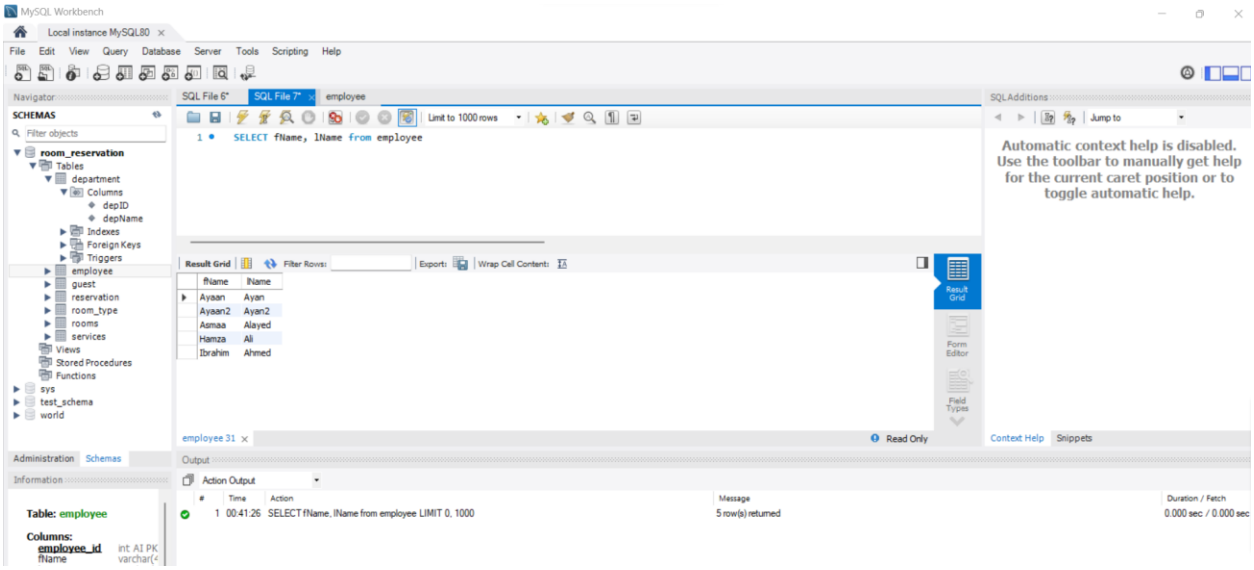
```
SELECT * FROM employee
```



SELECT Specific columns:

Following is the query to select specific columns of the table:

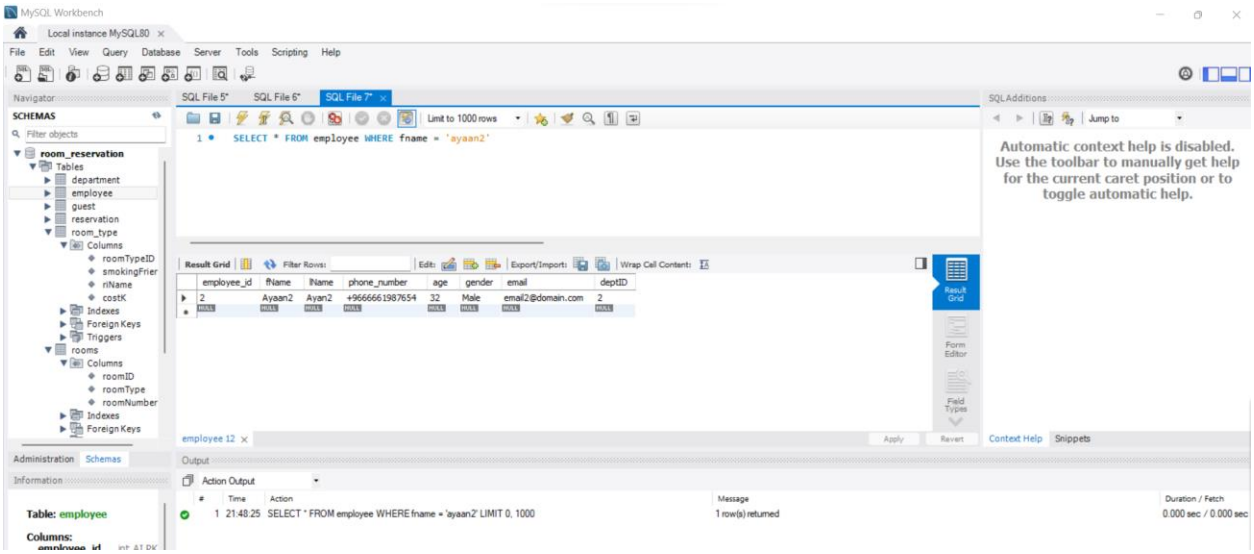
```
SELECT fName, lName from employee
```



SELECT with WHERE Command:

Following query retrieve all columns of employee table and those records of the employee which has first name as ayaan2.

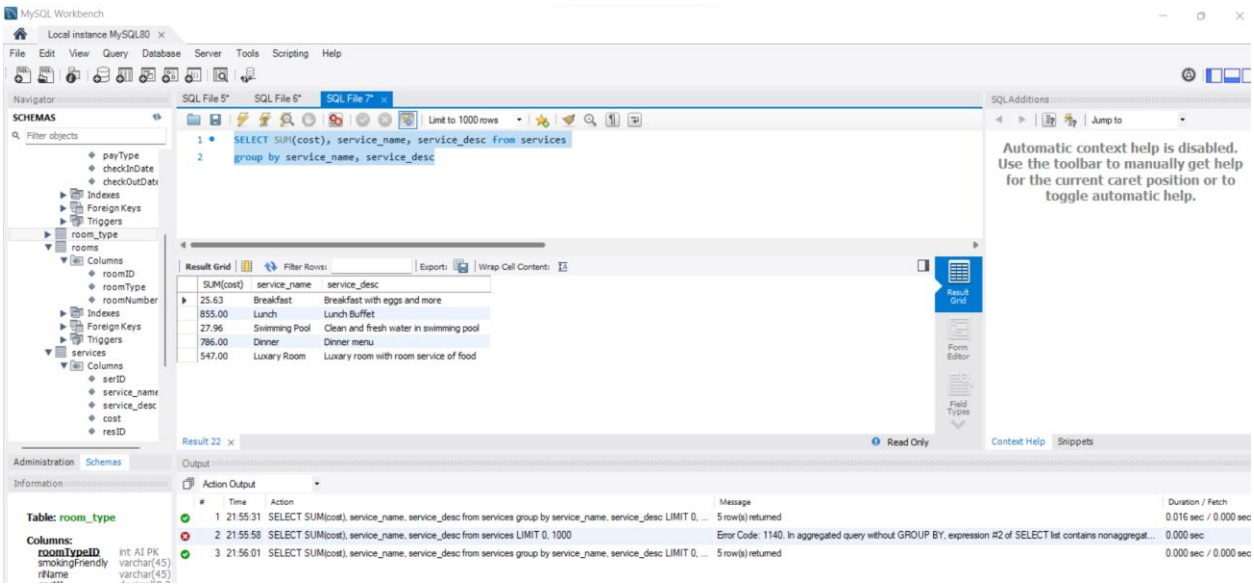
```
SELECT * FROM employee WHERE fname = 'ayaan2'
```



GROUP BY:

The GROUP BY command is normally used with aggregate functions (COUNT() , MAX() , MIN() , SUM() , AVG()) to group the result-set by one or more columns.

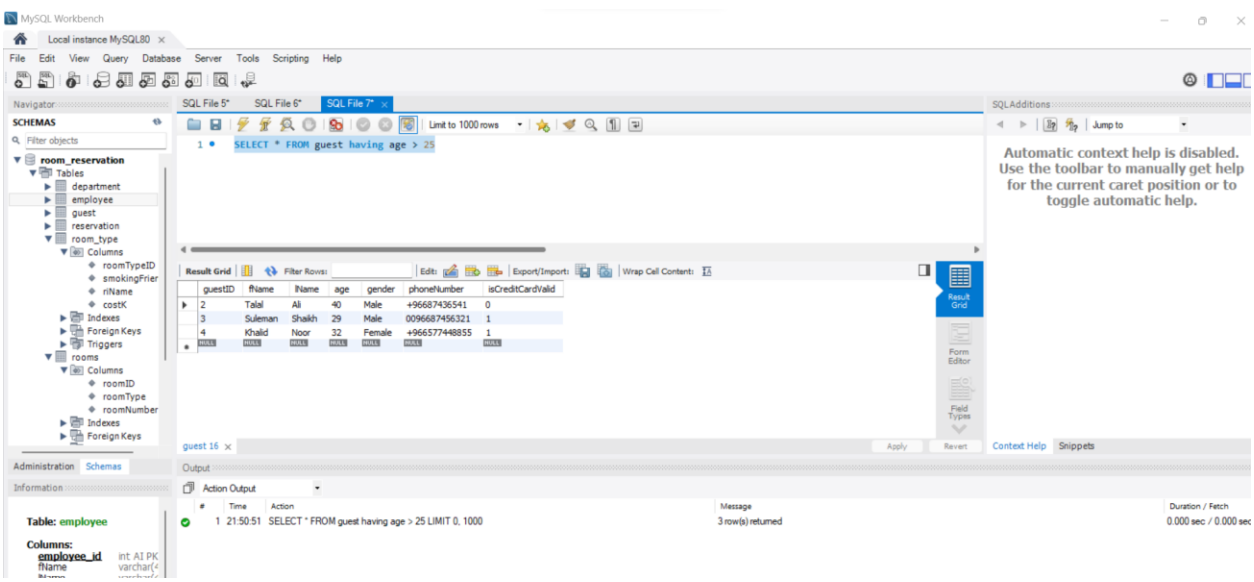
```
SELECT SUM(cost), service_name, service_desc from services

group by service_name, service_desc
```



HAVING in SELECT Command:

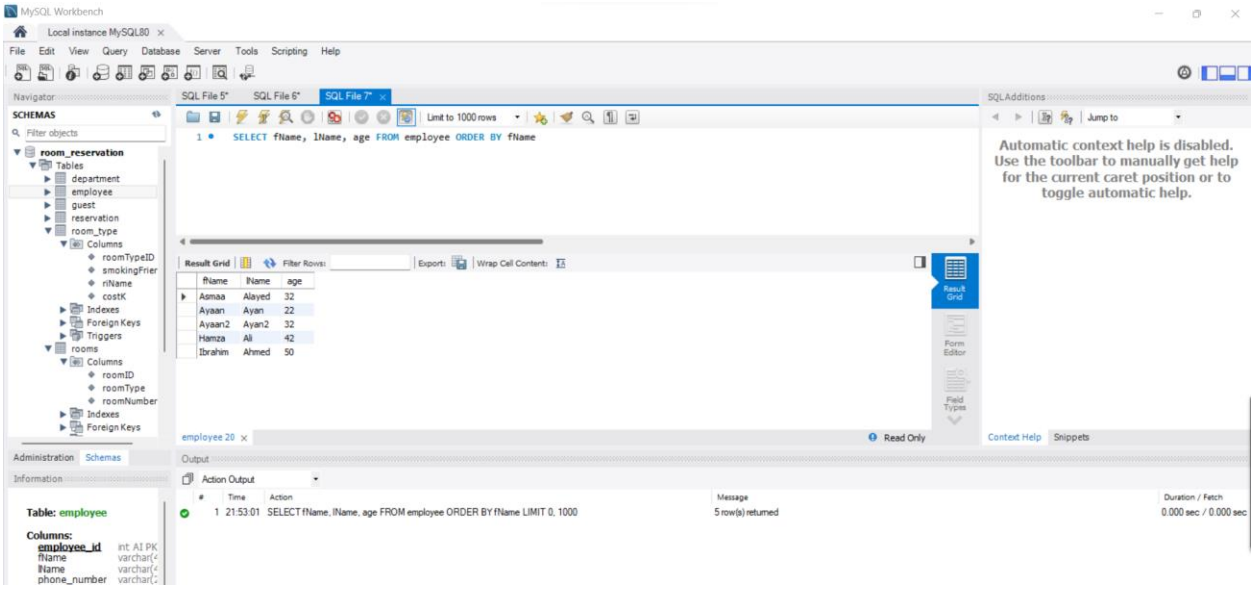
```
SELECT * FROM guest having age > 25
```

Below screen shot shows results of the query.



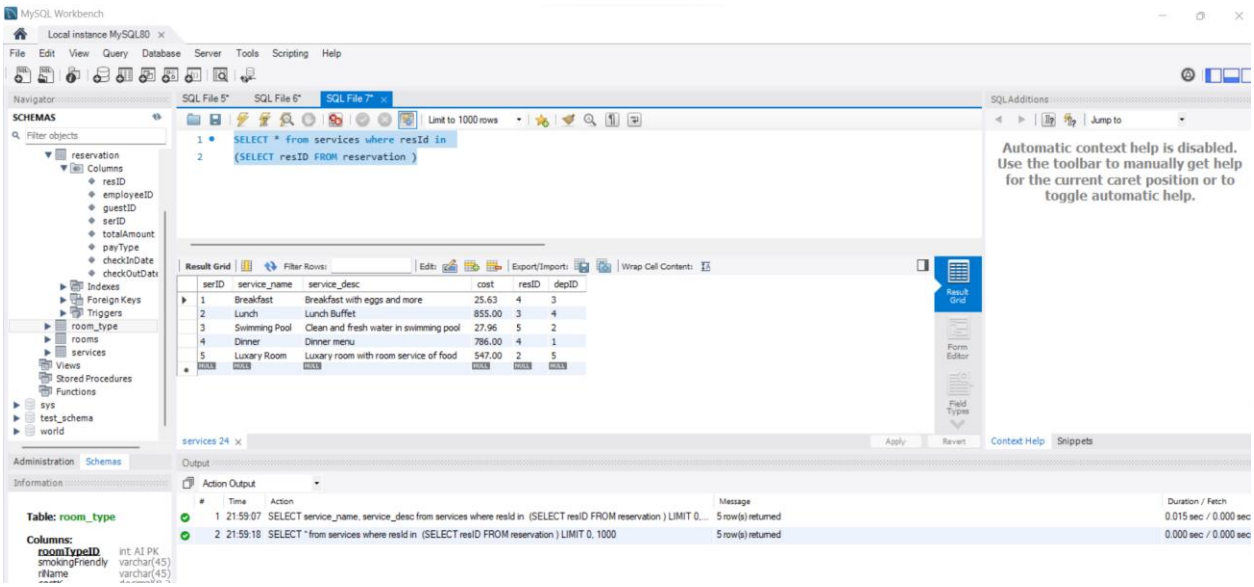
ORDER BY:

```
SELECT fName, lName, age FROM employee ORDER BY fName
```



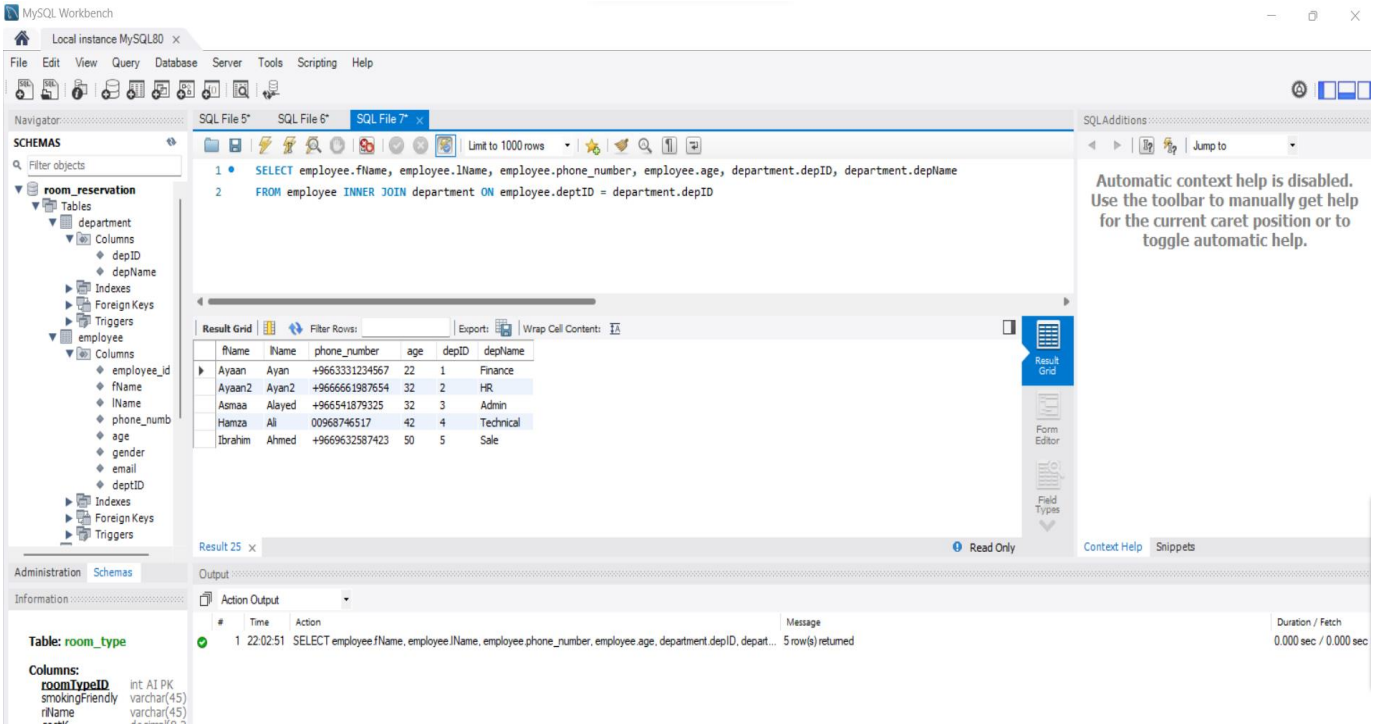
SUBQUERY:

```
SELECT * from services where resId in

(SELECT resID FROM reservation )
```



INNER JOIN:

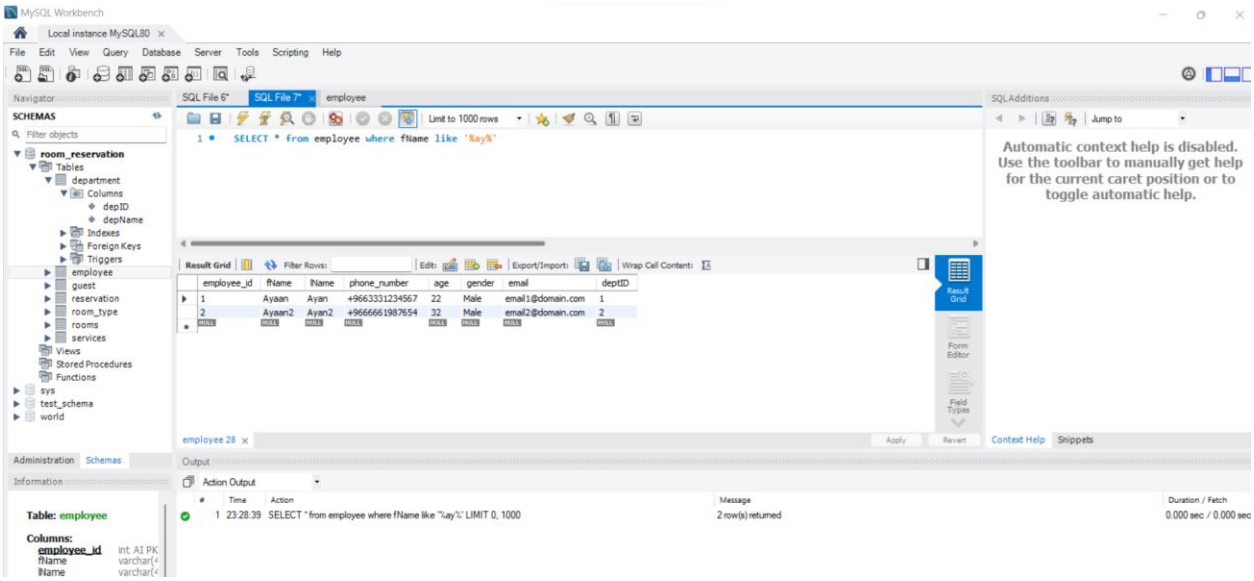
```
SELECT employee.fName, employee.lName, employee.phone_number, employee.age,
department.depID, department.depName

FROM employee INNER JOIN department ON employee.deptID = department.depID
```



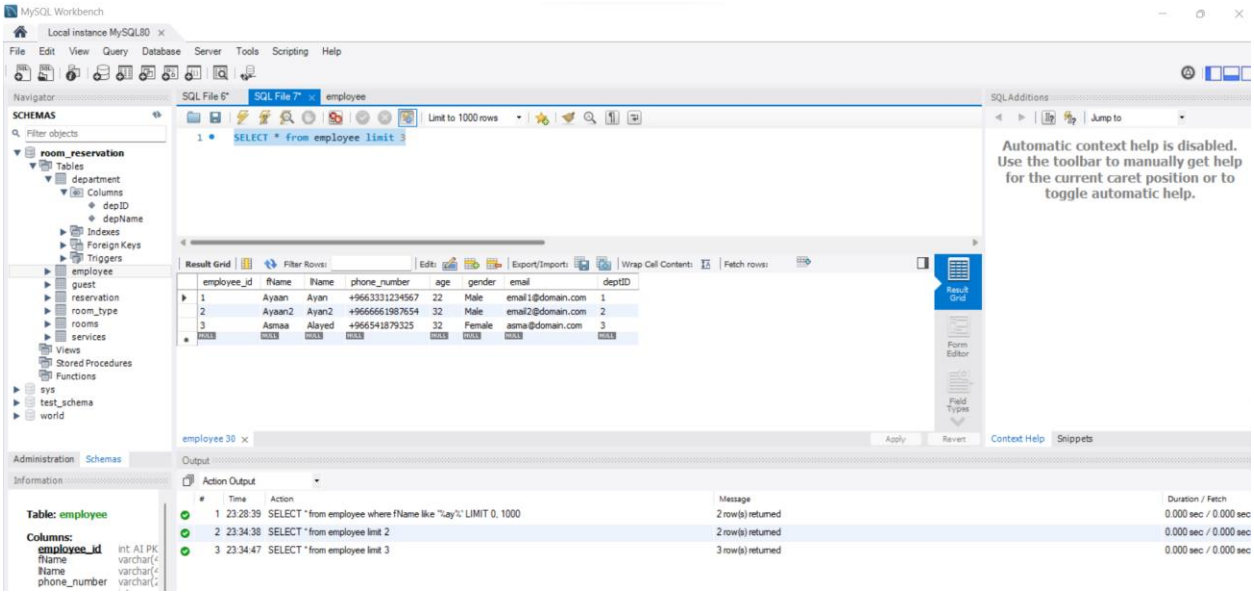
LIKE:

Like in select query retrieves all records which contains specified text/string.

```
SELECT * from employee where fName like '%ay%'
```



LIMIT:

The SELECT LIMIT command is used to specify the number of records to return

```
SELECT * from employee limit 3
```