

CSCE – 5350 – Fundamentals of Database System

Data Manipulation (SQL queries, update and delete statements)

Group – 18

Queries:

1. List the total number of hotels without swimming pool facilities in California.

Since all three hotels located in California have swimming pool, we got the output as no data found according to our Data Base.

The screenshot shows a web-based SQL editor titled "Live SQL". The SQL Worksheet contains the following query:

```
1 SELECT DISTINCT Hotel.ID, Hotel.name
2 FROM Hotel
3 LEFT JOIN Amenities ON Hotel.ID = Amenities.Hotel_ID
4 WHERE (Amenities.Pool = 'NO' OR Amenities.Pool IS NULL)
5 AND Hotel.State = 'California';
6
7 -- There is no output for this query. This means there are three hotels in California and all of them have a swimming pool.
```

Below the query, the output area displays "no data found".

2. Find hotel locations with the lowest reservations on November 23, 2023.

The screenshot shows a web-based SQL editor titled "Live SQL". The SQL Worksheet contains the following query:

```
1 SELECT City, State, Reservation_Count
2 FROM (
3     SELECT Hotel.City, Hotel.State, COUNT(*) AS Reservation_Count
4     FROM Bookings
5     JOIN Hotel ON Bookings.Hotel_ID = Hotel.ID
6     WHERE TO_DATE('2023-11-23', 'YYYY-MM-DD') BETWEEN Bookings.Checkin AND Bookings.Checkout
7     GROUP BY Hotel.City, Hotel.State
8     ORDER BY Reservation_Count ASC
9 )
```

Below the query, the output area displays a table with the following data:

CITY	STATE	RESERVATION_COUNT
Aspen	Colorado	1

3. Find the name of the employee(s) assigned to hotels in Dallas that had worked the most hours on November 3, 2023.

Live SQL

SQL Worksheet

```
1 SELECT
2   E.ID AS Employee_ID,
3   E.name AS Employee_Name,
4   MAX(A.Hours) AS Max_Hours_Worked
5 FROM
6   Employee E
7 JOIN
8   Attendance A ON E.ID = A.Emp_ID
9 JOIN
10  Hotel H ON E.Hotel_ID = H.ID
11 WHERE
12  H.City = 'Dallas'
13  AND A.Attend_Date = DATE '2023-11-03'
14 GROUP BY
15  E.ID, E.name
16 ORDER BY
17  Max_Hours_Worked DESC;
```

EMPLOYEE_ID	EMPLOYEE_NAME	MAX_HOURS_WORKED
6522	John Smith	8

Download CSV

4. List the hotels that have at least 20 rooms but with less than 10 employees working in their location

Live SQL

SQL Worksheet

```
1 -- Taking room numbers and employees working according to dataset
2 SELECT
3   Hotel.ID,
4   Hotel.name AS Hotel_Name,
5   COUNT(DISTINCT Rooms.RoomNumber) AS Total_Rooms,
6   COUNT(DISTINCT Employee.ID) AS Total_Employees
7 FROM
8   Hotel
9 LEFT JOIN
10  Rooms ON Hotel.ID = Rooms.Hotel_ID
11 LEFT JOIN
12  Employee ON Hotel.ID = Employee.Hotel_ID
13 GROUP BY
14  Hotel.ID, Hotel.name
15 HAVING
16  COUNT(DISTINCT Rooms.RoomNumber) >= 2
17  AND COUNT(DISTINCT Employee.ID) < 2;
```

ID	HOTEL_NAME	TOTAL_ROOMS	TOTAL_EMPLOYEES
4567	Grand Resort	2	1
5678	Cozy Inn	2	1
6789	Sunset Lodge	2	1
7890	Mountain View Retreat	2	1
8901	City Lights Hotel	2	1

5. Print the payroll from March 4, 2022 to March 10, 2022 displaying employee name, hours worked and total salary for all employees

Live SQL

Feedback Help drusyachandra@my.unt.edu

SQL Worksheet

Clear Find Actions Save Run

```
1 -- Considering start and end dates according to dataset.
2 SELECT
3     E.name AS Employee_Name,
4     SUM(A.Hours) AS Hours_Worked,
5     SUM(A.Hours) * 25 AS Total_Salary
6 FROM
7     Employee E
8 JOIN
9     Attendance A ON E.ID = A.Emp_ID
10 WHERE
11     A.Attend_Date BETWEEN DATE '2022-03-04' AND DATE '2025-03-10'
12 GROUP BY
13     E.name;
```

EMPLOYEE_NAME	HOURS_WORKED	TOTAL_SALARY
Alice Johnson	1722	43050
Michael Williams	1646	41150
David Miller	1698	42450
Jessica Davis	1657	41425
Olivia Garcia	1655	41375
Emily Brown	1686	42150

6. Design a delete statement to delete employees without graduate degrees. in hotels located outside the United States.

Live SQL

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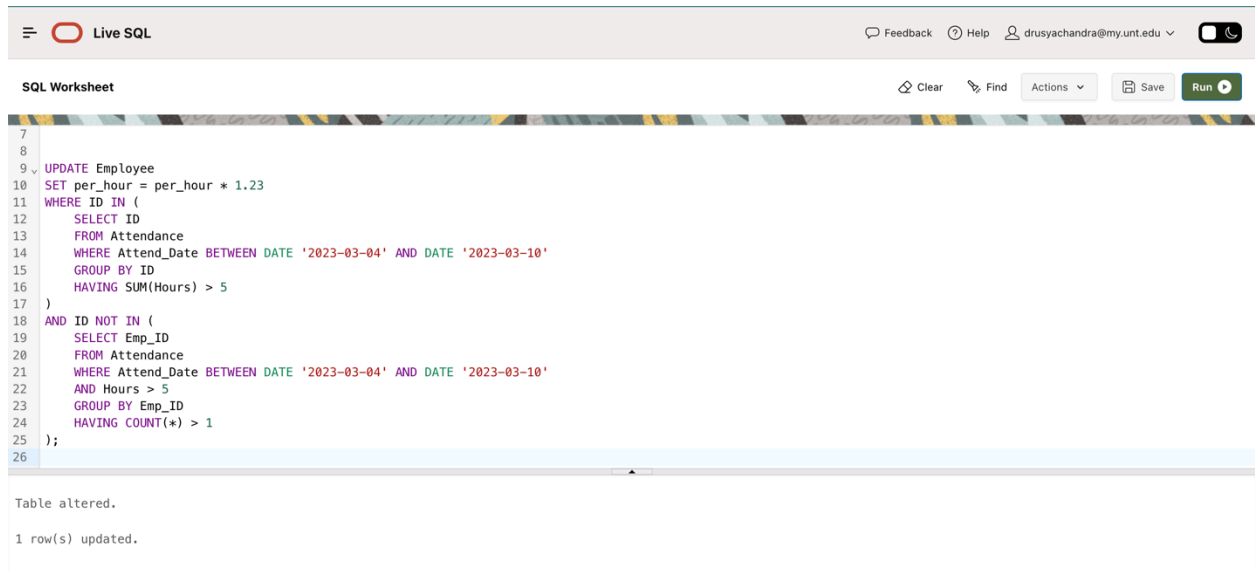
SQL Worksheet

Clear Find Actions Save Run

```
1 DELETE FROM Employee
2 WHERE Education NOT LIKE '%Graduate%'
3 AND Hotel_ID IN (
4     SELECT ID
5     FROM Hotel
6     WHERE Country != 'USA'
7 );
```

1 row(s) deleted.

7. Design an update statement to give a 23% salary raise to employees working more than 5 hours from March 4, 2023 to March 10, 2023.



The screenshot shows a web-based SQL editor titled "Live SQL". The interface includes a header with a menu icon, the text "Live SQL", and links for "Feedback", "Help", and a user profile "drusyachandra@my.unt.edu". Below the header is a toolbar with "Clear", "Find", "Actions", "Save", and "Run" buttons. The main area is labeled "SQL Worksheet" and contains the following SQL code:

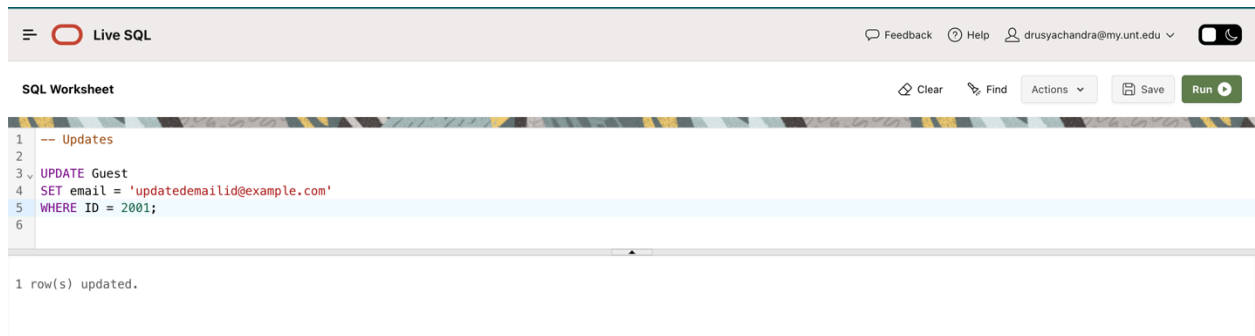
```
7
8
9 √ UPDATE Employee
10 SET per_hour = per_hour * 1.23
11 WHERE ID IN (
12     SELECT ID
13     FROM Attendance
14     WHERE Attend_Date BETWEEN DATE '2023-03-04' AND DATE '2023-03-10'
15     GROUP BY ID
16     HAVING SUM(Hours) > 5
17 )
18 AND ID NOT IN (
19     SELECT Emp_ID
20     FROM Attendance
21     WHERE Attend_Date BETWEEN DATE '2023-03-04' AND DATE '2023-03-10'
22     AND Hours > 5
23     GROUP BY Emp_ID
24     HAVING COUNT(*) > 1
25 );
26
```

Below the code, the execution results are displayed:

```
Table altered.
1 row(s) updated.
```

Performing few UPDATE statements on Data Base:

1)



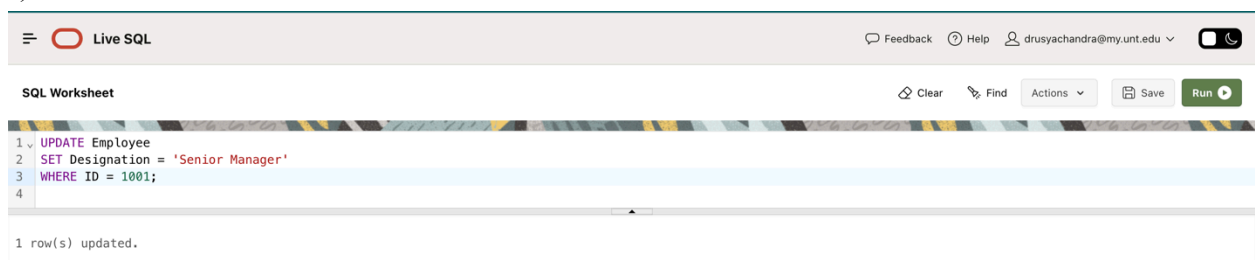
The screenshot shows a web-based SQL editor titled "Live SQL". The interface includes a header with a menu icon, the text "Live SQL", and links for "Feedback", "Help", and a user profile "drusyachandra@my.unt.edu". Below the header is a toolbar with "Clear", "Find", "Actions", "Save", and "Run" buttons. The main area is labeled "SQL Worksheet" and contains the following SQL code:

```
1 -- Updates
2
3 √ UPDATE Guest
4 SET email = 'updatedemailid@example.com'
5 WHERE ID = 2001;
6
```

Below the code, the execution results are displayed:

```
1 row(s) updated.
```

2)



The screenshot shows a web-based SQL editor titled "Live SQL". The interface includes a header with a menu icon, the text "Live SQL", and links for "Feedback", "Help", and a user profile "drusyachandra@my.unt.edu". Below the header is a toolbar with "Clear", "Find", "Actions", "Save", and "Run" buttons. The main area is labeled "SQL Worksheet" and contains the following SQL code:

```
1 √ UPDATE Employee
2 SET Designation = 'Senior Manager'
3 WHERE ID = 1001;
4
```

Below the code, the execution results are displayed:

```
1 row(s) updated.
```

3)

Live SQL Feedback Help drusyachandra@my.unt.edu

SQL Worksheet Clear Find Actions Save Run

```
1 UPDATE RoomType
2 SET Cost = 150
3 WHERE RoomType = 'Deluxe';
4
```

2 row(s) updated.

4)

Live SQL Feedback Help drusyachandra@my.unt.edu

SQL Worksheet Clear Find Actions Save Run

```
1 UPDATE Hotel
2 SET PhoneNumber = 8247071678
3 WHERE ID = 8901;
4
```

1 row(s) updated.

5)

Live SQL Feedback Help drusyachandra@my.unt.edu

SQL Worksheet Clear Find Actions Save Run

```
1 UPDATE Bookings
2 SET Checkin = TO_DATE('2024-04-15','YYYY-MM-DD')
3 WHERE ID = 10004;
4
```

1 row(s) updated.

6)

Live SQL Feedback Help drusyachandra@my.unt.edu

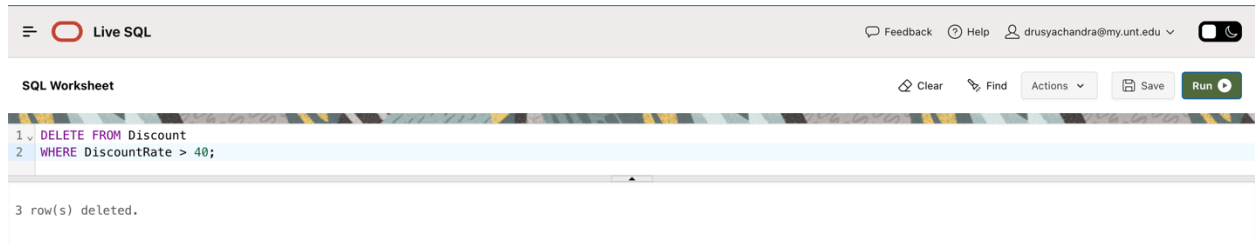
SQL Worksheet Clear Find Actions Save Run

```
1 UPDATE Maintenance
2 SET Maintenance_Type = 'Plumbing'
3 WHERE ID = 4;
4
```

1 row(s) updated.

Performing few DELETE statements on Data Base:

1)

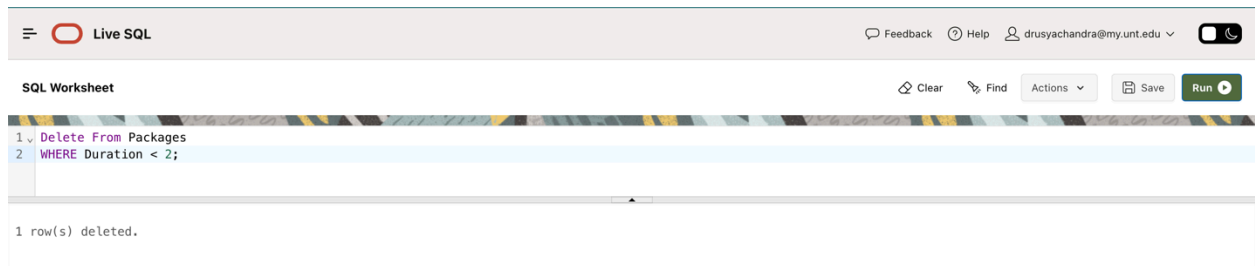


The screenshot shows the Live SQL interface. The SQL Worksheet contains the following code:

```
1 DELETE FROM Discount
2 WHERE DiscountRate > 40;
```

Below the code, the result indicates that 3 row(s) were deleted.

2)



The screenshot shows the Live SQL interface. The SQL Worksheet contains the following code:

```
1 Delete From Packages
2 WHERE Duration < 2;
```

Below the code, the result indicates that 1 row(s) were deleted.

3)



The screenshot shows the Live SQL interface. The SQL Worksheet contains the following code:

```
1 DELETE FROM HotelService
2 WHERE Cost > 15 AND Cost < 35;
```

Below the code, the result indicates that 5 row(s) were deleted.

4)



The screenshot shows the Live SQL interface. The SQL Worksheet contains the following code:

```
1 DELETE FROM Attendance
2 WHERE Emp_ID = 1007;
```

Below the code, the result indicates that 216 row(s) were deleted.

5)

The screenshot shows the Live SQL interface. The top header includes the 'Live SQL' logo, a user profile 'drusyachandra@my.unt.edu', and a dark mode toggle. Below the header, the 'SQL Worksheet' section contains a query editor with the following SQL code:

```
1 DELETE FROM Maintenance
2 WHERE Maintenance_Type = 'Carpentry';
3
```

Below the query editor, the results area displays the message: '2 row(s) deleted.'

6)

The screenshot shows the Live SQL interface. The top header includes the 'Live SQL' logo, a user profile 'drusyachandra@my.unt.edu', and a dark mode toggle. Below the header, the 'SQL Worksheet' section contains a query editor with the following SQL code:

```
1 DELETE FROM Attendance
2 WHERE Attend_Date < TO_DATE('2023-11-01', 'YYYY-MM-DD') AND Hours < 6;
```

Below the query editor, the results area displays the message: '766 row(s) deleted.'

Additional Queries created:

1. List all guests who booked a room type with a cost greater than \$100.

Live SQL
Feedback
Help
drusyachandra@my.unt.edu

SQL Worksheet

Clear
Find
Actions
Save
Run

```

1 -- List all guests who booked a room type with a cost greater than $100
2
3 SELECT g.name AS Guest_Name, RoomType
4 FROM Guest g
5 JOIN Bookings b ON g.ID = b.Guest_ID
6 JOIN RoomType rt ON rt.RoomNumber = b.Room_Number
7 WHERE rt.Cost > 100;
8

```

GUEST_NAME	ROOMTYPE
Bob Smith	Double Bed
Bob Smith	Double Bed
Charlie Brown	Deluxe
David Miller	Double Bed
Emma Davis	Double Bed
Grace Lee	Double Bed
Henry Garcia	Deluxe
Jack Thompson	Double Bed

2) Find the average number of hours worked by each employee per day

Live SQL
Feedback
Help
drusyachandra@my.unt.edu

SQL Worksheet

Clear
Find
Actions
Save
Run

```

1 -- Find the average number of hours worked by each employee per day:
2
3 SELECT Emp_ID, AVG(Hours) AS AvgHoursWorkedPerDay
4 FROM Attendance
5 GROUP BY Emp_ID;
6

```

EMP_ID	AVGHOURSWORKEDPERDAY
1009	6.69607843137254901960784313725490196078
1004	6.6138613861386138613861386138613861
6522	8
1008	6.66028708133971291866028708133971291866
1006	6.44607843137254901960784313725490196078
1010	6.51776649746192893401015228426395939086
1001	6.6354679802955665024630541871921182266
1002	6.65116279069767441860465116279069767442
1005	6.7121212121212121212121212121212121
1003	6.60215053763440860215053763440860215054

3) Find the total cost of bookings made by each guest

Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```
1 -- Find the total cost of bookings made by each guest
2
3 SELECT g.name AS Guest_Name, SUM(rt.Cost) AS Total_Cost
4 FROM Guest g
5 JOIN Bookings b ON g.ID = b.Guest_ID
6 JOIN RoomType rt ON b.Room_Number = rt.RoomNumber
7 GROUP BY g.name;
```

GUEST_NAME	TOTAL_COST
Alice Johnson	100
Ivy Martinez	100
Emma Davis	150
Bob Smith	300
David Miller	250
Grace Lee	150
Charlie Brown	150
Frank Wilson	100
Henry Garcia	150
Jack Thompson	150

4) List all guests who have stayed in hotels rated 'A' or 'B'

Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```
1 -- List all guests who have stayed in hotels rated 'A' or 'B'
2
3 SELECT DISTINCT g.name AS Guest_Name, h.ID, sr.rating
4 FROM Guest g
5 JOIN Bookings b ON g.ID = b.Guest_ID
6 JOIN Hotel h ON b.Hotel_ID = h.ID
7 JOIN StarRating sr ON h.ID = sr.Hotel_ID
8 WHERE sr.Rating IN ('A', 'B');
```

GUEST_NAME	ID	RATING
Bob Smith	5678	B
Alice Johnson	4567	A
Frank Wilson	4567	A
Grace Lee	5678	B

5) List all bookings with check-in dates after a specific date and are far more than 3 days.

Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```
1 -- List all bookings with check-in dates after a specific date and are for more than 3 days
2
3 SELECT * FROM Bookings
4 WHERE Checkin > TO_DATE('2023-12-31', 'YYYY-MM-DD') AND (Checkout - Checkin) > 3;
5
```

ID	ROOMSBOOKED	BOOKING_DATE	CHECKIN	CHECKOUT	HOTEL_ID	EMP_ID	ROOM_NUMBER	GUEST_ID
10001	1001,1002	27-FEB-24	01-MAR-24	05-MAR-24	4567	1001	1001	2001
10002	2001,2002	27-FEB-24	01-MAR-24	05-MAR-24	5678	1002	2002	2002
10003	3001	27-FEB-24	01-MAR-24	05-MAR-24	6789	1003	3001	2003
10006	1001,1002	28-FEB-24	02-MAR-24	06-MAR-24	4567	1006	1001	2006
10007	2001	28-FEB-24	02-MAR-24	06-MAR-24	5678	1007	2001	2007
10008	3002	28-FEB-24	02-MAR-24	06-MAR-24	6789	1008	3002	2008
10009	4001	28-FEB-24	02-MAR-24	06-MAR-24	7890	1009	4001	2009
10010	5002	28-FEB-24	02-MAR-24	06-MAR-24	8901	1010	5002	2010

Download CSV

8 rows selected.

6) Find the guests with highest number of bookings.

Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```
1 -- Find the guest with highest number of bookings
2
3 SELECT ID, name, TotalBookings
4 FROM (
5     SELECT Guest.ID, Guest.name, COUNT(Bookings.ID) AS TotalBookings
6     FROM Guest
7     LEFT JOIN Bookings ON Guest.ID = Bookings.Guest_ID
8     GROUP BY Guest.ID, Guest.name
9     ORDER BY TotalBookings DESC
10 ) GuestBookings
11 WHERE ROWNUM = 1;
12
```

ID	NAME	TOTALBOOKINGS
2004	David Miller	2

7) Calculate the total revenue generated by each hotel from bookings

Live SQL

Feedback Help drusyachandra@my.unt.edu

SQL Worksheet

Clear Find Actions Save Run

```
1 -- Calculate the total revenue generated by each hotel from bookings
2
3 SELECT Hotel.name, SUM(RoomType.Cost) AS TotalRevenue
4 FROM Hotel
5 LEFT JOIN Bookings ON Hotel.ID = Bookings.Hotel_ID
6 LEFT JOIN RoomType ON Bookings.RoomsBooked LIKE '%' || RoomType.RoomNumber || '%'
7 GROUP BY Hotel.name;
```

NAME	TOTALREVENUE
City Lights Hotel	450
Riverside Retreat	-
Sunny Beach Resort	-
The Vineyard Inn	-
Harbor View Hotel	-
Cozy Inn	750
Grand Resort	400
Mountain Peak Lodge	-
Sunset Lodge	300
Mountain View Retreat	200
JKM Grand	-

8) List the total number of days each room has been booked for

Live SQL

Feedback Help drusyachandra@my.unt.edu

SQL Worksheet

Clear Find Actions Save Run

```
1 -- Find the total number of days each room has been booked for
2 SELECT Room_Number, SUM(Checkout - Checkin) AS TotalDaysBooked
3 FROM Bookings
4 GROUP BY Room_Number;
```

ROOM_NUMBER	TOTALDAYSBOOKED
5001	69
4001	4
2002	8
2001	4
3002	4
5002	4
1001	8
3001	4

9) List all employees who have certifications and are working as managers

Live SQL

Feedback Help drusyachandra@my.unt.edu

SQL Worksheet

Clear Find Actions Save Run

```
1 -- List all employees who have certifications and are working as managers
2 |
3 SELECT *
4 FROM Employee
5 WHERE Certifications IS NOT NULL AND Designation LIKE 'Manager';
```

ID	NAME	PHONENUMBER	EMAIL	ADDRESS	DESIGNATION	CRIMINALRECORD	EDUCATION	CERTIFICATIONS	DEPARTMENT	HOTEL_ID	SUPERVISORID	PER_HOUR
6522	John Smith	1234222890	john.smith@example.com	123 Main St, Miami, FL, USA	Manager	None	Bachelor of Business Administration	Management Certification	Management	9011	-	38

10) List all hotels along with the count of bookings made in each hotel

Live SQL

Feedback Help drusyachandra@my.unt.edu

SQL Worksheet

Clear Find Actions Save Run

```
1 -- List all hotels along with the count of bookings made in each hotel
2 |
3 SELECT Hotel.name, COUNT(Bookings.ID) AS TotalBookings
4 FROM Hotel
5 LEFT JOIN Bookings ON Hotel.ID = Bookings.Hotel_ID
6 GROUP BY Hotel.name;
```

NAME	TOTALBOOKINGS
City Lights Hotel	3
Riverside Retreat	0
Sunny Beach Resort	0
The Vineyard Inn	0
Harbor View Hotel	0
Cozy Inn	3
Grand Resort	2
Mountain Peak Lodge	0
Sunset Lodge	2
Mountain View Retreat	2
JKM Grand	0

Individual Contributions:

For this week's submission, I wrote and executed the given 7 queries. I also wrote the update, delete and the 10 additional queries for the QueHotel database.

I also assisted with the documentation for this week, taking screenshots and formatting the document wherever necessary.

I also organized timely and productive meetings to discuss the project and update the project wherever necessary.