INTRODUCTION

This project focus on Property Management Services. It aims to examine different services rendered at different properties in different locations by the Property Management company employees.

BACKGROUND

Two SQL scripts were provided. These were used to form a database named 'Data_Analytics_BatchB' which comprises of four different tables GG_employee Table, Property Table, Owner Table and Service table from which SQL queries were used to generate information and insights.

The questions I wanted to answer through my SQL queries are:

1. Show all owner information.
2. Show all OwnerName and OwnerEmail.
3. Show all OwnerName and OwnerEmail which OwnerType is 'Corporation'.
4. Show PropertyID and ServiceDate for all services have HoursWorked more than 4.
5. Show PropertyID and ServiceDate for all services have HoursWorked between 4 and 6.
6. Count how many services have HoursWorked more than 4.
7. Count how many distinct ExperienceLevel in EMPLOYEE table.
8. Show all employees with CellPhone containing '254' and the ExperienceLevel is Senior.
9. Show all properties not in city 'Seattle' or 'Bellevue'.
10. Show all properties with PropertyName begins with 'P', but the location is not in NY State.
11. Show all the services in descending order of their HoursWorked.
12. Show all the services which HoursWorked is greater than 3 in ascending order of their ServiceDate.
13. Show all owners with Email as NULL.
14. Count how many Owners whose Email is not NULL.
15. Show the sum of Hours Worked in SERVICE.
16. Show Only show the employee with sum of Hours Worked more than 7
17. Show the names of employees who have worked on a property owned by a corporation.
18. Show the names of employees who have worked on a property in New York.
19. Sort the employees' information in ascending order by the total hours of their service.
20. Show names and Email of owners who have the property named 'Private Residence'.
21. Show the number of services on properties with owner's type as 'Corporation'.
22. Show the total hours of service on properties with owner type as 'Corporation'.
23. Show the names of the employee who has worked most hours.

TOOLS I USED

For my deep dive into the property management service, I harnessed the power of these key tools:

1. **SQL:** The backbone of my analysis, allowing me to query the database and unearth critical insights.
2. **MySQL:** The chosen database management system, ideal for handling the property management service data.

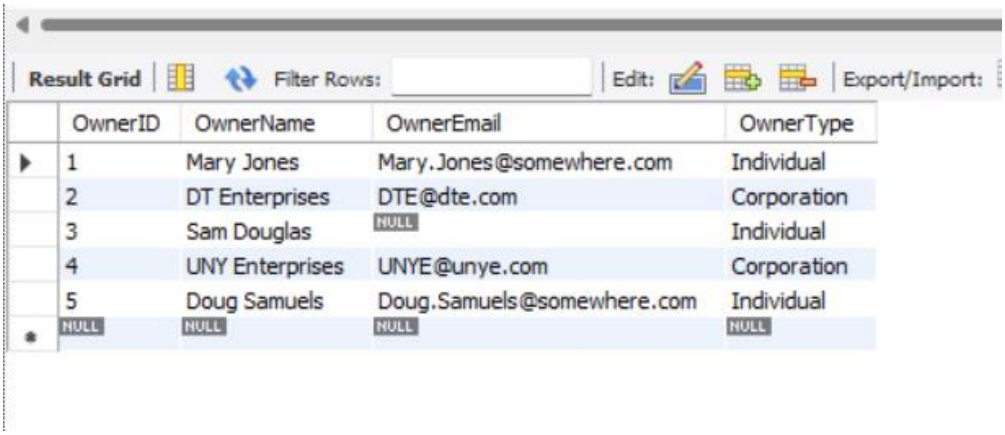
THE ANALYSIS

Here's how I approached each question and the screenshots of my query outputs:

1. **Show all owner information.**

```
SELECT
        *
FROM
        OWNER;
```

RESULT:



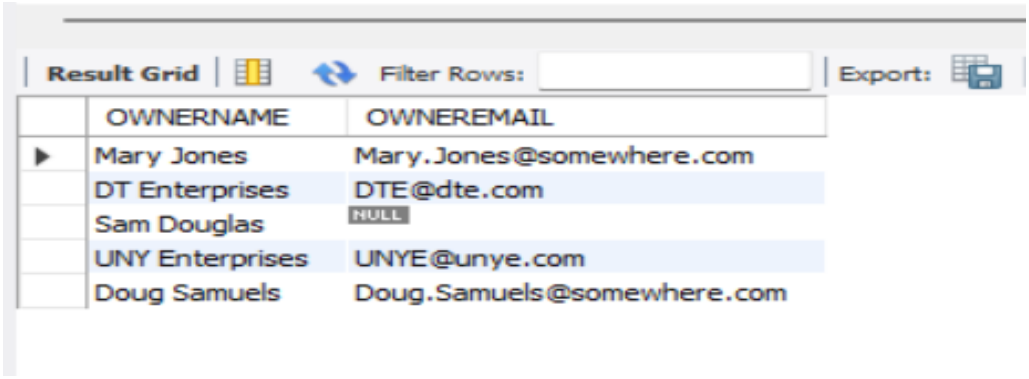
Result Grid | Filter Rows: | Edit: | Export/Import:

OwnerID	OwnerName	OwnerEmail	OwnerType
1	Mary Jones	Mary.Jones@somewhere.com	Individual
2	DT Enterprises	DTE@dte.com	Corporation
3	Sam Douglas	NULL	Individual
4	UNY Enterprises	UNYE@unye.com	Corporation
5	Doug Samuels	Doug.Samuels@somewhere.com	Individual
NULL	NULL	NULL	NULL

2. **Show all OwnerName and OwnerEmail.**

```
SELECT
        OWNERNAME,
        OWNEREMAIL
FROM
        OWNER;
```

RESULT:



Result Grid | Filter Rows: | Export:

OWNERNAME	OWNEREMAIL
Mary Jones	Mary.Jones@somewhere.com
DT Enterprises	DTE@dte.com
Sam Douglas	NULL
UNY Enterprises	UNYE@unye.com
Doug Samuels	Doug.Samuels@somewhere.com

3. **Show all OwnerName and OwnerEmail which OwnerType is 'Corporation'.**

```
SELECT
        OWNERNAME,
        OWNEREMAIL,
         OWNERTYPE
FROM
        OWNER
WHERE
        OWNERTYPE='Corporation';
```

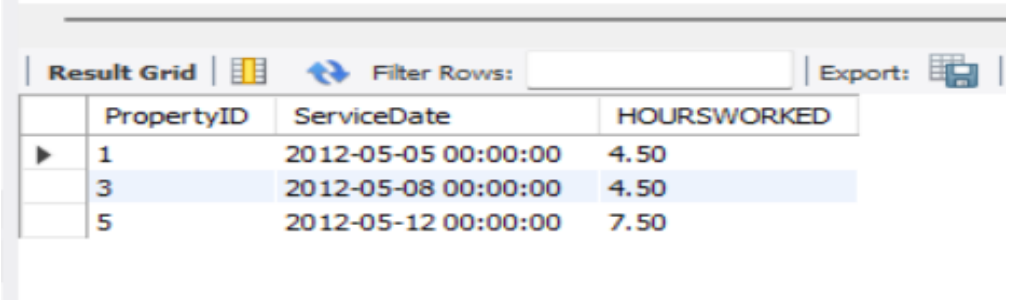
RESULT:

OWNERNAME	OWNEREMAIL	OWNERTYPE
DT Enterprises	DTE@dte.com	Corporation
UNY Enterprises	UNYE@unye.com	Corporation

4. **Show PropertyID and ServiceDate for all services have HoursWorked more than 4.**

```
SELECT
        PROPERTYID,
        SERVICEDATE,
        HOURSWORKED
FROM
        SERVICE
WHERE
        HOURSWORKED > 4;
```

RESULT:

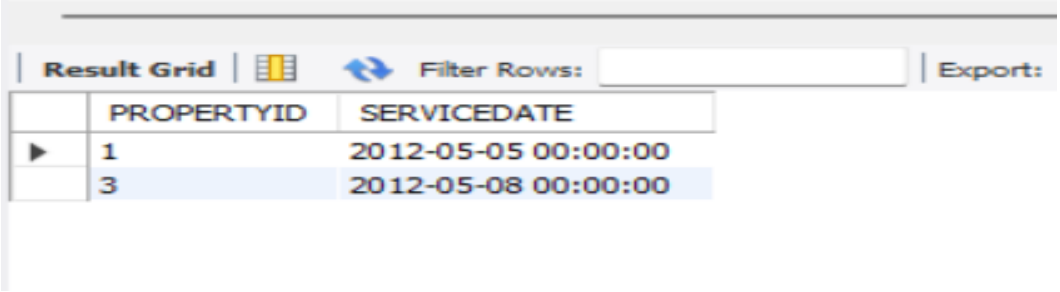


PropertyID	ServiceDate	HOURSWORKED
1	2012-05-05 00:00:00	4.50
3	2012-05-08 00:00:00	4.50
5	2012-05-12 00:00:00	7.50

5. **Show PropertyID and ServiceDate for all services have HoursWorked between 4 and 6.**

```
SELECT
        PROPERTYID,
        SERVICEDATE
FROM
        SERVICE
WHERE
        HOURSWORKED between 4 AND 6;
```

RESULT:



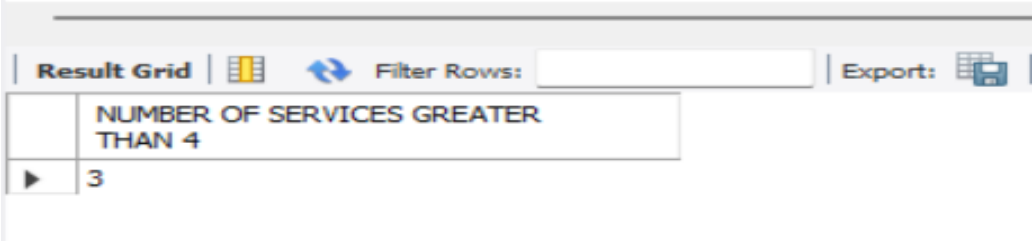
Result Grid | Filter Rows: | Export:

PROPERTYID	SERVICEDATE
1	2012-05-05 00:00:00
3	2012-05-08 00:00:00

6. **Count how many services have HoursWorked more than 4.**

```
SELECT
        COUNT(PROPERTYID) AS 'NUMBER OF SERVICES GREATER THAN 4'
FROM
        SERVICE
WHERE
        HOURSWORKED > 4;
```

RESULT:



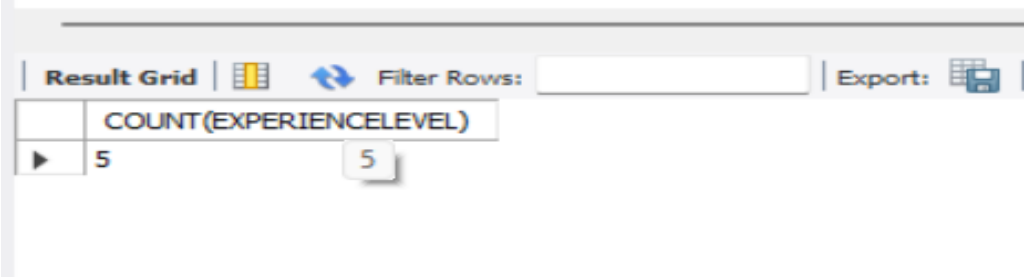
Result Grid | Filter Rows: | Export:

NUMBER OF SERVICES GREATER THAN 4
3

7. **Count how many distinct ExperienceLevel in EMPLOYEE table.**

```
SELECT DISTINCT
        COUNT(EXPERIENCELEVEL)
FROM
        GG_EMPLOYEE;
```

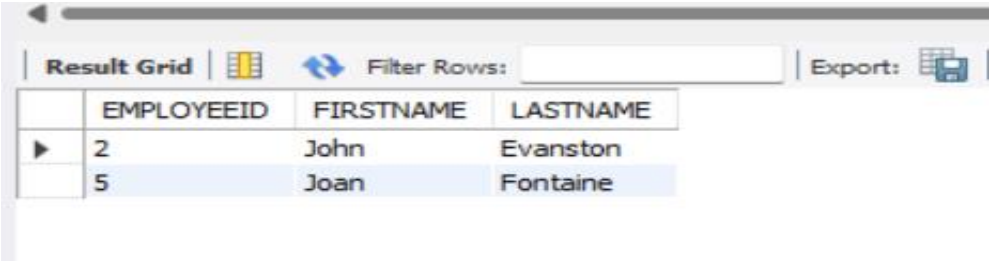
RESULT:



8. **Show all employees with CellPhone containing '254' and the ExperienceLevel is Senior.**

```
SELECT
        EMPLOYEEID,
        FIRSTNAME,
        LASTNAME
FROM
        GG_EMPLOYEE
WHERE
        CELLPHONE LIKE '%254%' AND EXPERIENCELEVEL='SENIOR';
```

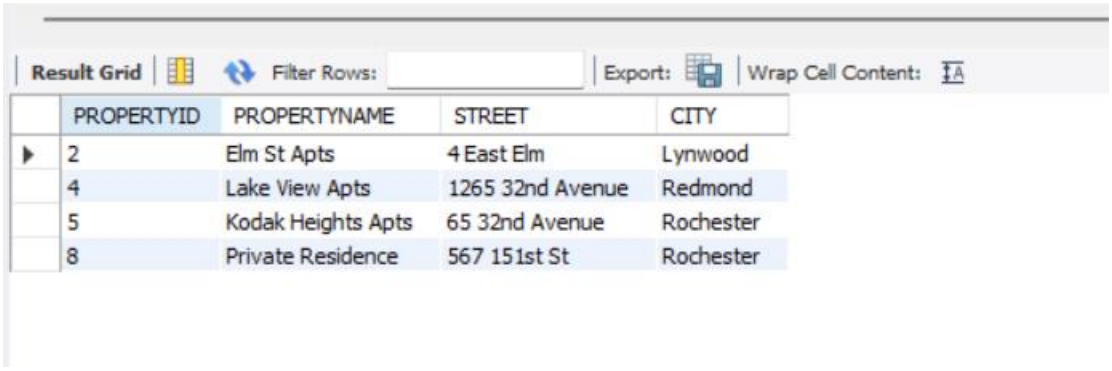
RESULT:



9. **Show all properties not in city 'Seattle' or 'Bellevue'.**

```
SELECT
        PROPERTYID,
        PROPERTYNAME,
        STREET,
        CITY
FROM
        PROPERTY
WHERE
        CITY NOT IN ('SEATTLE', 'BELLEVUE');
```

RESULT



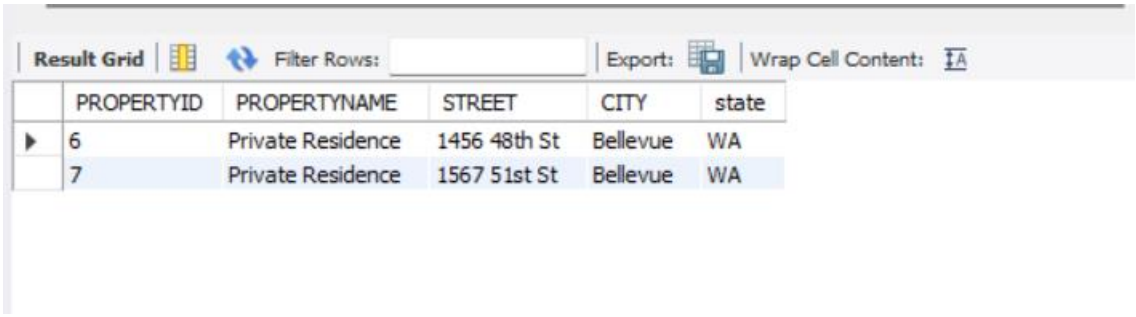
PROPERTYID	PROPERTYNAME	STREET	CITY
2	Elm St Apts	4 East Elm	Lynwood
4	Lake View Apts	1265 32nd Avenue	Redmond
5	Kodak Heights Apts	65 32nd Avenue	Rochester
8	Private Residence	567 151st St	Rochester

10. Show all properties with PropertyName begins with 'P', but the location is not in NY State.

```
SELECT
        PROPERTYID,
        PROPERTYNAME,
        STREET,
        CITY,
        STATE
FROM
        PROPERTY
```

```
WHERE
        PROPERTYNAME LIKE 'P%' AND STATE <> 'NY';
```

RESULT:

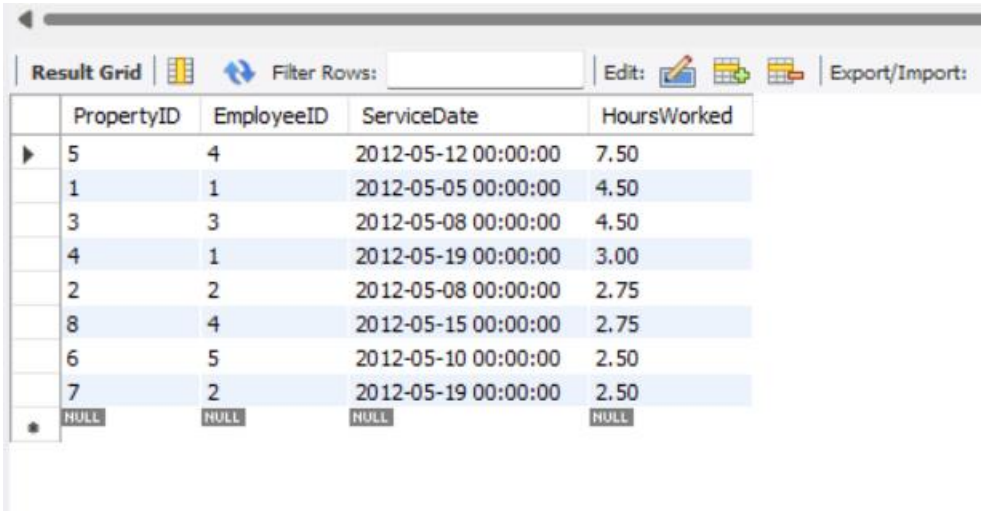


PROPERTYID	PROPERTYNAME	STREET	CITY	state
6	Private Residence	1456 48th St	Bellevue	WA
7	Private Residence	1567 51st St	Bellevue	WA

11. Show all the services in descending order of their HoursWorked.

```
SELECT
        *
FROM
        SERVICE
ORDER BY
        HOURSWORKED DESC;
```

RESULT:

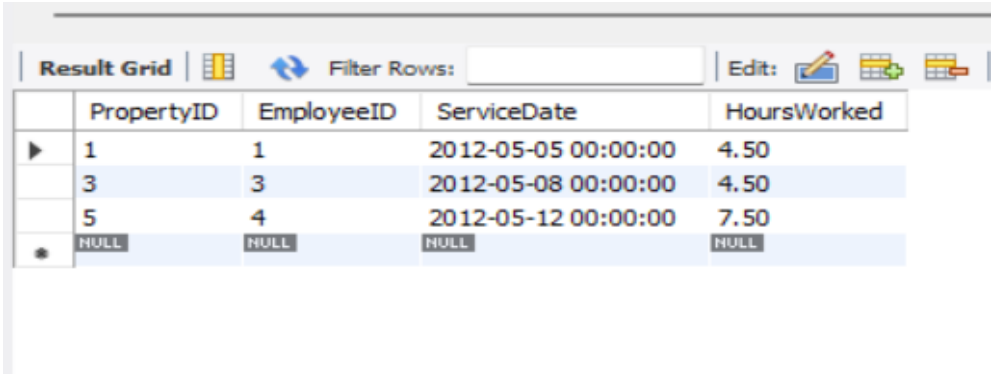


PropertyID	EmployeeID	ServiceDate	HoursWorked
5	4	2012-05-12 00:00:00	7.50
1	1	2012-05-05 00:00:00	4.50
3	3	2012-05-08 00:00:00	4.50
4	1	2012-05-19 00:00:00	3.00
2	2	2012-05-08 00:00:00	2.75
8	4	2012-05-15 00:00:00	2.75
6	5	2012-05-10 00:00:00	2.50
7	2	2012-05-19 00:00:00	2.50
NULL	NULL	NULL	NULL

12. **Show all the services which HoursWorked is greater than 3 in ascending order of their ServiceDate.**

```
SELECT
        *
FROM
        SERVICE
WHERE
        HOURSWORKED > 3
ORDER BY
        SERVICEDATE;
```

RESULT:



Result Grid | Filter Rows: | Edit:

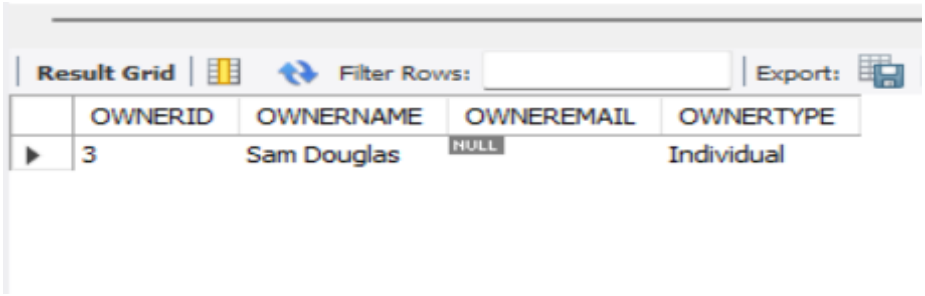
PropertyID	EmployeeID	ServiceDate	HoursWorked
1	1	2012-05-05 00:00:00	4.50
3	3	2012-05-08 00:00:00	4.50
5	4	2012-05-12 00:00:00	7.50
NULL	NULL	NULL	NULL

13. **Show all owners with Email as NULL.**

```
SELECT
        OWNERID,
        OWNERNAME,
        OWNEREMAIL,
        OWNERTYPE
FROM
        OWNER
WHERE
```

OWNEREMAIL IS NULL;

RESULT:



14. Count how many Owners whose Email is not NULL.

SELECT

COUNT(OWNERID)

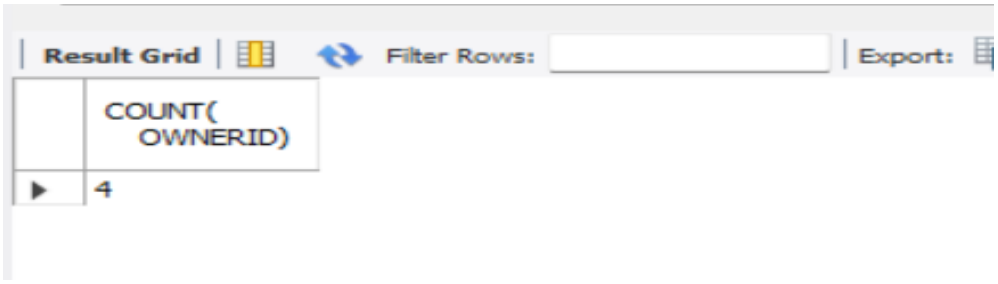
FROM

OWNER

WHERE

OWNEREMAIL IS NOT NULL;

RESULT:



15. Show the sum of Hours Worked in SERVICE.

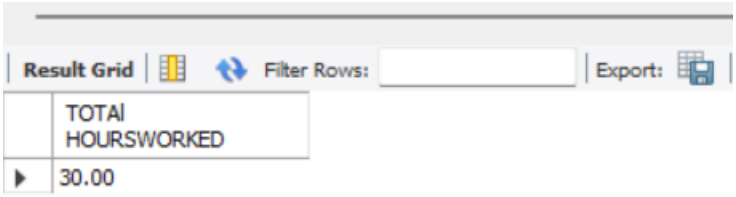
SELECT

SUM(HOURSWORKED) AS 'TOTAL HOURSWORKED'

FROM

SERVICE;

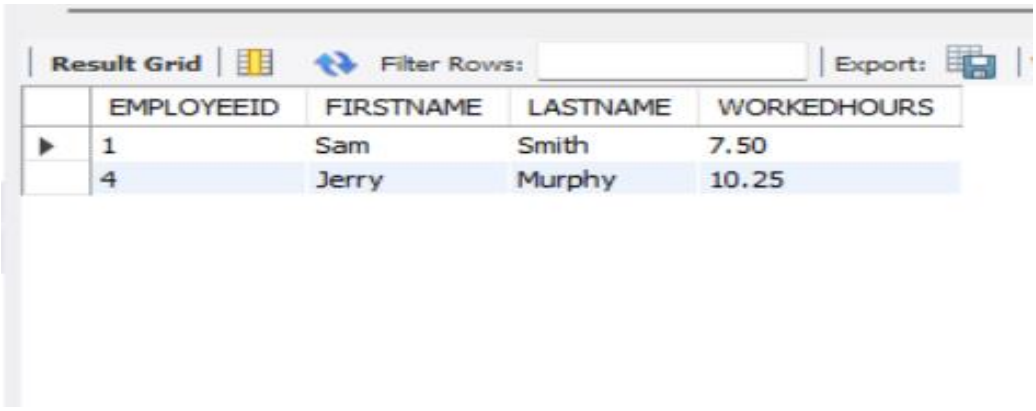
RESULT:



16. **Show Only show the employee with sum of Hours Worked more than 7**

```
SELECT
        SERVICE.EMPLOYEEID,
        GG_EMPLOYEE.FIRSTNAME,
        GG_EMPLOYEE.LASTNAME,
        SUM(SERVICE.HOURSWORKED) AS 'WORKEDHOURS'
FROM
        GG_EMPLOYEE
INNER JOIN
        SERVICE
ON
        GG_EMPLOYEE.EMPLOYEEID=SERVICE.EMPLOYEEID
GROUP BY
        SERVICE.EMPLOYEEID
HAVING
        WORKEDHOURS>7;
```

RESULT:



Result Grid | Filter Rows: | Export:

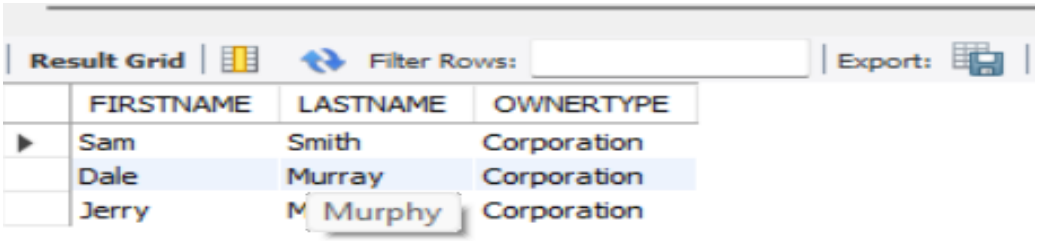
EMPLOYEEID	FIRSTNAME	LASTNAME	WORKEDHOURS
1	Sam	Smith	7.50
4	Jerry	Murphy	10.25

17. Show the names of employees who have worked on a property owned by a corporation.

```
SELECT
        GG_EMPLOYEE.FIRSTNAME,
        GG_EMPLOYEE.LASTNAME,
        OWNER.OWNERTYPE

FROM
        GG_EMPLOYEE
INNER JOIN
        SERVICE
ON
        GG_EMPLOYEE.EMPLOYEEID=SERVICE.EMPLOYEEID
INNER JOIN
        PROPERTY
ON
        PROPERTY.PROPERTYID=SERVICE.PROPERTYID
INNER JOIN
        OWNER
ON
        OWNER.OWNERID=PROPERTY.OWNERID
WHERE
        OWNER.OWNERTYPE = 'CORPORATION';
```

RESULT:



Result Grid | Filter Rows: | Export:

FIRSTNAME	LASTNAME	OWNERTYPE
Sam	Smith	Corporation
Dale	Murray	Corporation
Jerry	Murphy	Corporation

18. Show the names of employees who have worked on a property in New York.

```
SELECT
        GG_EMPLOYEE.FIRSTNAME,
        GG_EMPLOYEE.LASTNAME,
        PROPERTY.PROPERTYID,
        PROPERTY.PROPERTYNAME,
        PROPERTY.STREET,
        PROPERTY.STATE
FROM
        GG_EMPLOYEE
INNER JOIN
        SERVICE
ON
        GG_EMPLOYEE.EMPLOYEEID=SERVICE.EMPLOYEEID
INNER JOIN
        PROPERTY
ON
        PROPERTY.PROPERTYID=SERVICE.PROPERTYID


WHERE
        PROPERTY.STATE = 'NY';
```

RESULT:

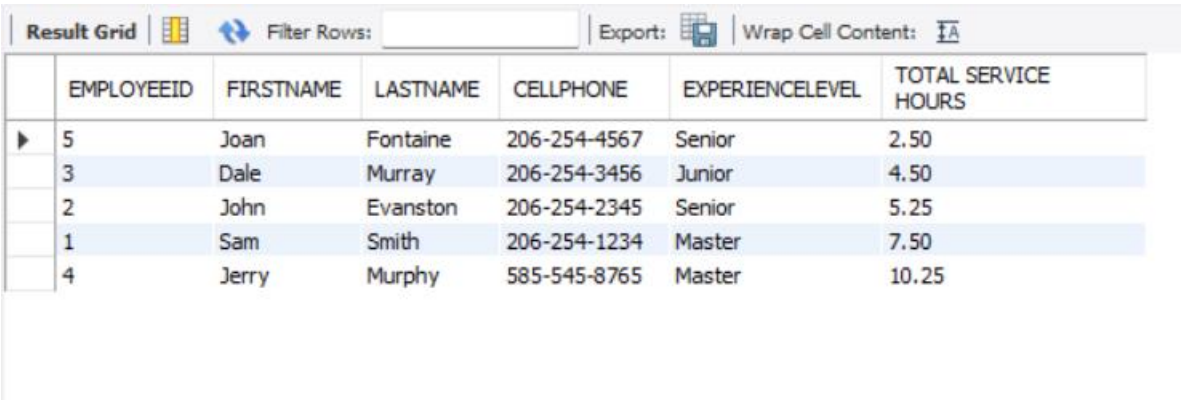
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

FIRSTNAME	LASTNAME	PROPERTYID	PROPERTYNAME	STREET	STATE
Jerry	Murphy	5	Kodak Heights Apts	65 32nd Avenue	NY
Jerry	Murphy	8	Private Residence	567 151st St	NY

19. Sort the employees' information in ascending order by the total hours of their service.

```
SELECT
        GG_EMPLOYEE.EMPLOYEEID,
        GG_EMPLOYEE.FIRSTNAME,
        GG_EMPLOYEE.LASTNAME,
        GG_EMPLOYEE.CELLPHONE,
        GG_EMPLOYEE.EXPERIENCELEVEL,
        SUM(SERVICE.HOURSWORKED) AS 'TOTAL SERVICE HOURS'
FROM
        GG_EMPLOYEE
LEFT JOIN
        SERVICE
ON
        GG_EMPLOYEE.EMPLOYEEID=SERVICE.EMPLOYEEID
GROUP BY
        GG_EMPLOYEE.EMPLOYEEID
ORDER BY
        SUM(SERVICE.HOURSWORKED);
```

RESULT:

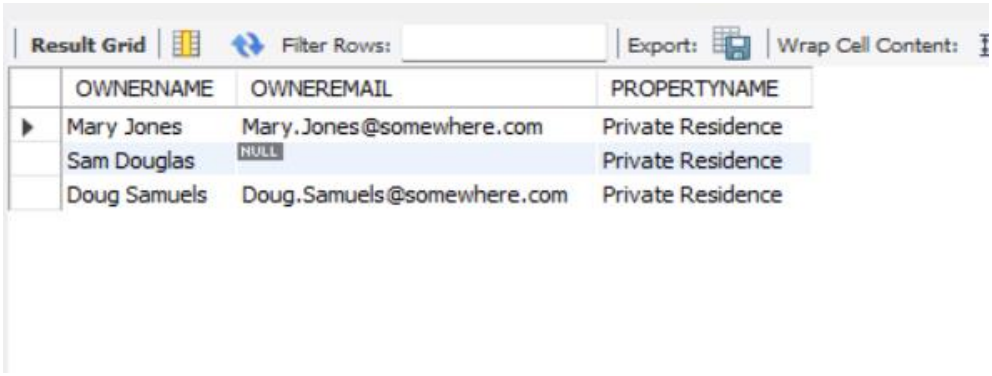


EMPLOYEEID	FIRSTNAME	LASTNAME	CELLPHONE	EXPERIENCELEVEL	TOTAL SERVICE HOURS
5	Joan	Fontaine	206-254-4567	Senior	2.50
3	Dale	Murray	206-254-3456	Junior	4.50
2	John	Evanston	206-254-2345	Senior	5.25
1	Sam	Smith	206-254-1234	Master	7.50
4	Jerry	Murphy	585-545-8765	Master	10.25

20. Show names and Email of owners who have the property named 'Private Residence'.

```
SELECT
        OWNER.OWNERNAME,
         OWNER.OWNEREMAIL,
        PROPERTY.PROPERTYNAME
FROM
        OWNER
INNER JOIN
        PROPERTY
ON
        OWNER.OWNERID=PROPERTY.OWNERID
WHERE
        PROPERTY.PROPERTYNAME ='PRIVATE RESIDENCE';
```

RESULT:



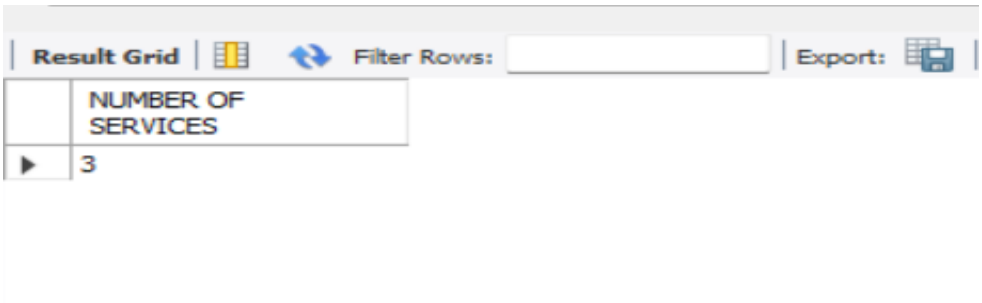
OWNERNAME	OWNEREMAIL	PROPERTYNAME
Mary Jones	Mary.Jones@somewhere.com	Private Residence
Sam Douglas	NULL	Private Residence
Doug Samuels	Doug.Samuels@somewhere.com	Private Residence

21. **Show the number of services on properties with owner's type as 'Corporation'**.

```
SELECT
        COUNT(SERVICE.SERVICEDATE) AS 'NUMBER OF SERVICES'
FROM
        SERVICE
INNER JOIN
```

```
        PROPERTY
ON
        SERVICE.PROPERTYID=PROPERTY.PROPERTYID
INNER JOIN
        OWNER
ON
        OWNER.OWNERID=PROPERTY.OWNERID
WHERE
        OWNER.OWNERTYPE= 'CORPORATION';
```

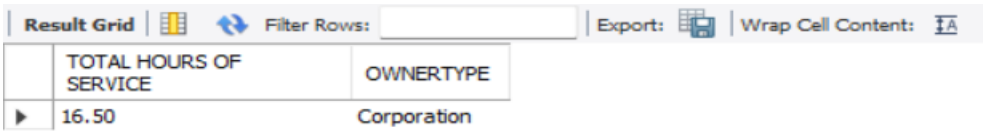
RESULT:



22. Show the total hours of service on properties with owner type as ‘Corporation’.

```
SELECT
        SUM(SERVICE.HOURSWORKED) AS 'TOTAL HOURS OF SERVICE',
        OWNER.OWNERTYPE
FROM
        SERVICE
INNER JOIN
        PROPERTY
ON
        SERVICE.PROPERTYID=PROPERTY.PROPERTYID
INNER JOIN
        OWNER
ON
        OWNER.OWNERID=PROPERTY.OWNERID
GROUP BY
        OWNER.OWNERTYPE
HAVING
        OWNER.OWNERTYPE='CORPORATION';
```

RESULT:



	TOTAL HOURS OF SERVICE	OWNERTYPE
▶	16.50	Corporation

23. Show the names of the employee who has worked most hours.

```
SELECT
        GG_EMPLOYEE.EMPLOYEEID,
        GG_EMPLOYEE.FIRSTNAME,
        GG_EMPLOYEE.LASTNAME,
         SUM(SERVICE.HOURSWORKED) AS 'TOTAL HOURS WORKED'
FROM
        GG_EMPLOYEE
INNER JOIN
        SERVICE
ON
        GG_EMPLOYEE.EMPLOYEEID=SERVICE.EMPLOYEEID
GROUP BY
        GG_EMPLOYEE.EMPLOYEEID
ORDER BY
        SUM(SERVICE.HOURSWORKED) DESC
LIMIT    1
```

RESULT:


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	EMPLOYEEID	FIRSTNAME	LASTNAME	TOTAL HOURS WORKED
▶	4	Jerry	Murphy	10.25

CLOSING THOUGHT

This project enhanced my SQL skills and provided valuable insights into the Property Management Services. This exploration highlights the importance of continuous learning and adaptation to emerging trends in the field of data analytics.