DBMS LAB ASSIGNMENT - 5

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Q-1:

Illustrate logical ANY, ALL and LIKE operator- the queries should be relevant to your respective databases 3 queries for each operator. One query explaining the difference between ANY and ALL.

QUERIES:

3 Queries for ANY

```
SELECT phone_number FROM T3_EmployeeDetails WHERE designation =

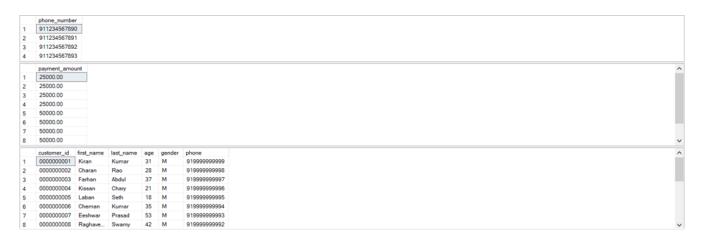
ANY (SELECT designation FROM T3_EmployeeDetails WHERE salary = 12500);

SELECT payment_amount FROM T3_BookingDetails WHERE customer_id =

ANY (SELECT customer_id FROM T3_CustomerDetails WHERE age<30);

SELECT * FROM T3_CustomerDetails WHERE age <

ANY (SELECT age FROM T3_CustomerDetails WHERE gender = 'M');
```



3 Queries for ALL

```
SELECT phone_number FROM T3_EmployeeDetails WHERE designation =

ALL (SELECT designation FROM T3_EmployeeDetails WHERE salary = 12500);

SELECT CONCAT(first_name, last_name) AS name FROM T3_CustomerDetails WHERE age <

ALL (SELECT age FROM T3_CustomerDetails WHERE age>30);

SELECT * FROM T3_CustomerDetails WHERE age <

ALL (SELECT age FROM T3_CustomerDetails WHERE gender = 'M');
```

OUTPUT:



3 Queries for LIKE

```
SELECT name, designation FROM T3_EmployeeDetails WHERE employee_id LIKE '02%';

SELECT CONCAT(first_name, last_name) AS name FROM T3_CustomerDetails WHERE first_name LIKE 'C%';

SELECT DISTINCT package_name FROM T3_PackageDetails WHERE booking_id LIKE '01%';
```



Query to distinguish between ANY and ALL:

```
SELECT CONCAT(first_name, last_name) AS name FROM T3_CustomerDetails WHERE first_name = ANY(SELECT first_name FROM T3_CustomerDetails WHERE first_name LIKE 'C%');

SELECT CONCAT(first_name, last_name) AS name FROM T3_CustomerDetails WHERE first_name = ALL(SELECT first_name FROM T3_CustomerDetails WHERE first_name LIKE 'C%');
```

OUTPUT:

```
name
1 CharanRao
2 ChemanKumar
3 ChakramKumar
```

Q-2:

One query for each Aggregate function

QUERIES:

```
SELECT AVG(salary) FROM T3_EmployeeDetails WHERE designation = 'Driver';
SELECT COUNT(*) FROM T3_PackageDetails WHERE cost>25000;
SELECT MAX(age) FROM T3_CustomerDetails;
SELECT MIN(age) FROM T3_CustomerDetails;
SELECT SUM(payment_amount) FROM T3_BookingDetails;
```



Q-3:

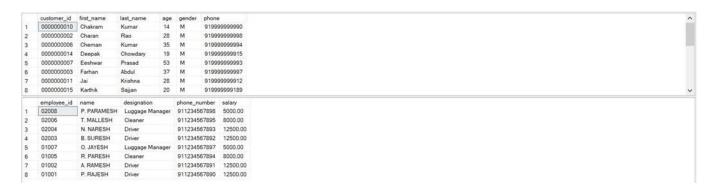
Illustrate the usage of order by, group by and having clause (2 queries for each case)

QUERIES:

```
2 Queries for ORDER BY:
```

```
| SELECT * FROM T3_CustomerDetails ORDER BY first_name ASC; | SELECT * FROM T3_EmployeeDetails ORDER BY employee_id DESC;
```

OUTPUT:



2 Queries for GROUP BY:

```
SELECT gender, COUNT(*) FROM T3_CustomerDetails WHERE age>21 GROUP BY gender;

SELECT bus_type, COUNT(*) FROM T3_Bus GROUP BY bus_type;
```

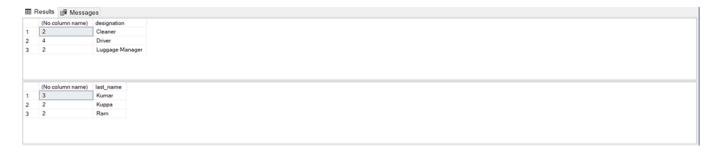
OUTPUT:

2 Queries for HAVING:

```
SELECT COUNT(employee_id), designation FROM T3_EmployeeDetails GROUP BY designation HAVING COUNT(employee_id) > 1;

SELECT COUNT(customer_id), last_name FROM T3_CustomerDetails GROUP BY last_name HAVING COUNT(customer_id) > 1;
```

OUTPUT:



Q-4:

Use Aggregate function with group by and having.

QUERIES:

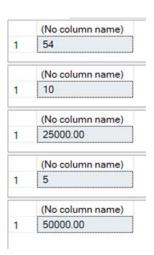
```
SELECT AVG(age) FROM T3_CustomerDetails GROUP BY last_name HAVING last_name = 'Ram';

SELECT COUNT(booking_id) FROM T3_PackageDetails GROUP BY cost HAVING cost = 50000;

SELECT MAX(payment_amount) FROM T3_BookingDetails GROUP BY payment_dateTime HAVING payment_dateTime = '2021-02-19 09:37:00.000';

SELECT MIN(age) FROM T3_CustomerDetails GROUP BY last_name HAVING last_name = 'kuppa';

SELECT SUM(salary) FROM T3_EmployeeDetails GROUP BY designation HAVING designation = 'Driver';
```



Q-5:

Write at least 3 nested queries using order by, group by and having clause.

QUERIES:

```
SELECT designation, AVG(salary) AS AverageSalary FROM T3_EmployeeDetails WHERE designation = 'Luggage Manager'
GROUP BY designation HAVING AVG(salary) < (SELECT AVG(salary) FROM T3_EmployeeDetails WHERE designation = 'Cleaner');

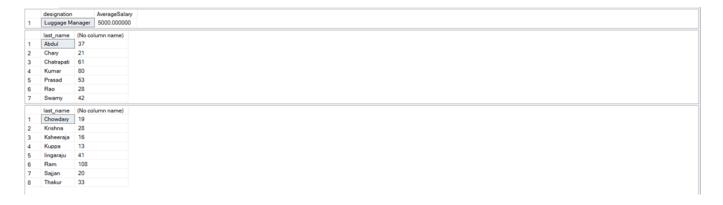
SELECT last_name, SUM(age) FROM T3_CustomerDetails WHERE customer_id =

ANY(SELECT customer_id FROM T3_BookingDetails WHERE payment_amount = 25000) GROUP BY last_name HAVING last_name LIKE '%a%';

SELECT last_name, SUM(age) FROM T3_CustomerDetails WHERE customer_id =

ANY(SELECT customer_id FROM T3_BookingDetails WHERE payment_amount = 50000) GROUP BY last_name HAVING last_name LIKE '%a%';
```

OUTPUT:



Q-6:

Illustrate the Usage of Except, Exists, Not Exists, Union, Intersection.

QUERIES:

```
SELECT customer_id FROM T3_CustomerDetails EXCEPT SELECT customer_id FROM T3_BookingDetails;

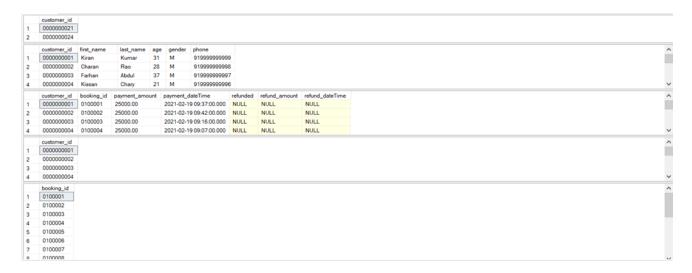
SELECT * FROM T3_CustomerDetails WHERE EXISTS(SELECT customer_id FROM T3_BookingDetails WHERE payment_amount = 25000);

SELECT * FROM T3_BookingDetails WHERE NOT EXISTS (SELECT customer_id FROM T3_CustomerDetails WHERE age>180);

SELECT customer_id FROM T3_BookingDetails UNION SELECT customer_id FROM T3_CustomerDetails;

SELECT booking_id FROM T3_PackageDetails INTERSECT SELECT booking_id FROM T3_DestinationDetails;
```

OUTPUT:



Q-7:

INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN- 3 queries for each instance.

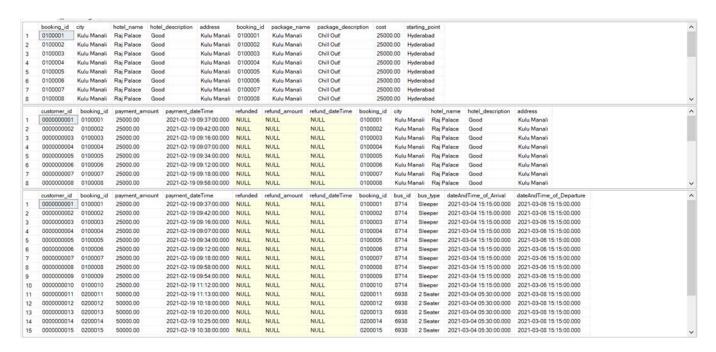
QUERIES:

3 Queries for INNER JOIN:

```
SELECT * FROM T3_DestinationDetails AS DEST INNER JOIN T3_PackageDetails AS PACK ON DEST.booking_id = PACK.booking_id;

SELECT * FROM T3_BookingDetails AS BOOKING INNER JOIN T3_DestinationDetails AS DEST ON BOOKING.booking_id = DEST.booking_id;

SELECT * FROM T3_BookingDetails AS BOOKING INNER JOIN T3_Bus AS BUS ON BOOKING.booking_id = BUS.booking_id;
```



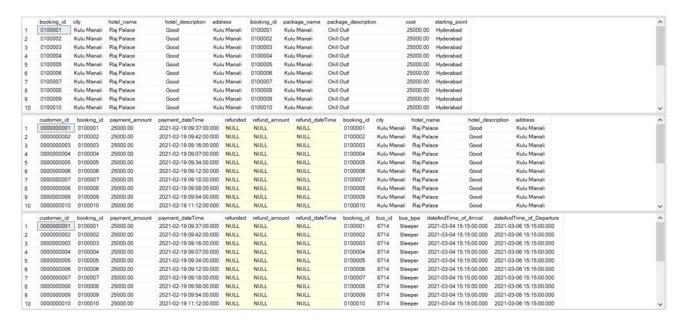
3 Queries for LEFT OUTER JOIN:

SELECT * FROM T3_DestinationDetails AS DEST LEFT OUTER JOIN T3_PackageDetails AS PACK ON DEST.booking_id = PACK.booking_id;

SELECT * FROM T3_BookingDetails AS BOOKING LEFT OUTER JOIN T3_DestinationDetails AS DEST ON BOOKING.booking_id = DEST.booking_id;

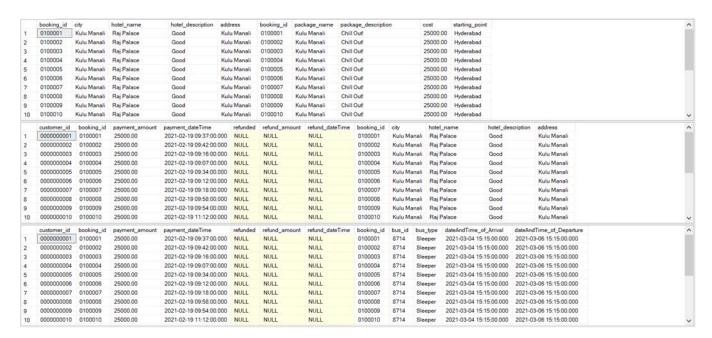
SELECT * FROM T3_BookingDetails AS BOOKING LEFT OUTER JOIN T3_Bus AS BUS ON BOOKING.booking_id = BUS.booking_id;

OUTPUT:



3 Queries for RIGHT OUTER JOIN:

SELECT * FROM T3_DestinationDetails AS DEST RIGHT OUTER JOIN T3_PackageDetails AS PACK ON DEST.booking_id = PACK.booking_id;
SELECT * FROM T3_BookingDetails AS BOOKING RIGHT OUTER JOIN T3_DestinationDetails AS DEST ON BOOKING.booking_id = DEST.booking_id;
SELECT * FROM T3_BookingDetails AS BOOKING RIGHT OUTER JOIN T3_Bus AS BUS ON BOOKING.booking_id = BUS.booking_id;



Q-8:

Use all the above condition in JOIN as well.

QUERIES:

```
SELECT first_name, MIN(booking_id) AS booking_id, AVG(age) AS age, MAX(phone) AS contact_no FROM T3_CustomerDetails AS Customer

JOIN

T3_BookingDetails AS Booking ON Customer.customer_id = Booking.customer_id

GROUP BY first_name HAVING first_name LIKE '%e%' ORDER BY first_name DESC;
```

| | first_name | booking_id | age | contact_no |
|---|-------------|------------|-----|--------------|
| 1 | Sunder | 0200017 | 54 | 919999999923 |
| 2 | Somesh | 0200013 | 33 | 919999999914 |
| 3 | Shreya | 0200019 | 8 | 919999999187 |
| 4 | Raghavendra | 0100008 | 42 | 91999999999 |
| 5 | Eeshwar | 0100007 | 53 | 919999999993 |
| 6 | Deepak | 0200014 | 19 | 919999999915 |
| 7 | Cheman | 0100006 | 35 | 919999999994 |