DBMS LAB ASSIGNMENT - 5

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Q1) 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

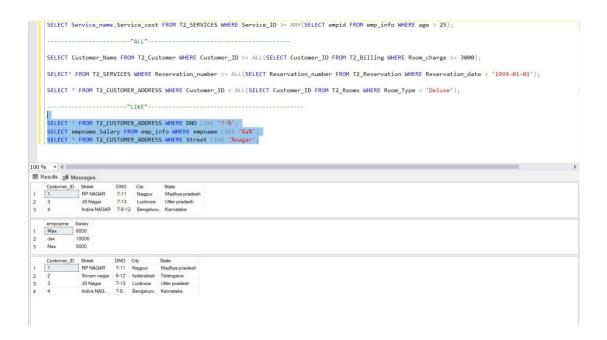
QUERIES FOR "ANY"

	SUSE HOTEL	;							
	SELECT *	FROM T2_Cus	stomer WHERE	Customer_	ID <=	= ANY(S	ELECT Customer_ID FROM T2_Rooms WHERE Customer_ID < 3)		
	SELECT * FROM T2_Rooms WHERE number_of_beds < ANY(SELECT Number_of_guests FROM T2_Reservation);								
	SELECT Se	ELECT Service name, Service cost FROM T2_SERVICES WHERE Service_ID >= ANY(SELECT empid FROM emp_info WHERE age > 25);							
100	% •								
III F	Results ∰ Me	ssages							
	Customer_ID	Customer_Name	e Phone_numbe	er City	State	Zipcode	Email_ID		
1	1	Lofflin	8688543748	Nagpur	MP	534201	loff@gmail.com		
2	2	Ram	8688543744	hyderabad	TN	534204	Ram@gmail.com		
1	Room_number	Room_Type	Room_location block-2	number_of_bed	s Cur	stomer_ID			
2	2	Economic	block-1	3	1				
3	3	Deluxe	block-2	1	4				
	Service_name	Service_cost							
1	Transport	8000							
2	Room	4000							

QUERIES FOR "AII"



QUERIES FOR "Like"



Q2) One query for each Aggregate function.

The aggregate functions are MIN(), MAX(), COUNT(), AVG(), SUM()

AVG() – return the average of the set

MIN() – returns the minimum value in a set

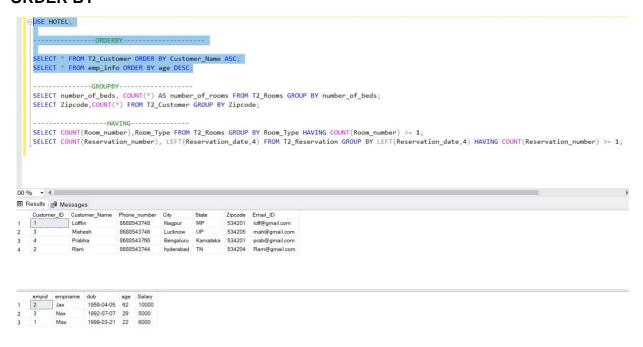
MAX() – returns the maximum value in set

SUM() – returns the sum of all distinct values of a set

COUNT() – returns the number of items in a set

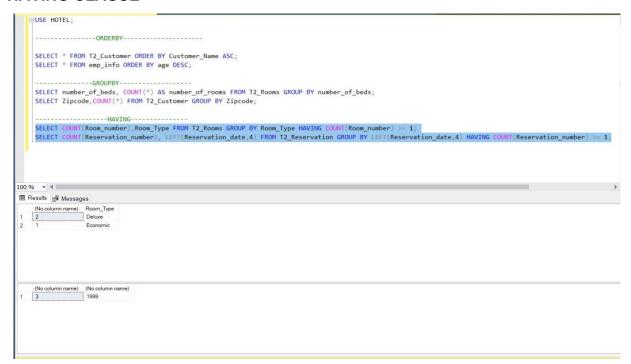
Q3) Illustrate the usage of order by, group by and having clause (2 queries for each case)

ORDER BY



GROUP BY

HAVING CLAUSE



Q4) Use Aggregate function with group by and having

AVG():

COUNT():

MIN():

MAX():

```
EUSE HOTEL;

SELECT AVG(number_of_beds) FROM T2_Rooms GROUP BY Room_location HAVING Room_location LIKE 'block%';

SELECT COUNT(Customer_ID) FROM T2_Reservation GROUP BY Check_in_date HAVING Check_in_date >= '1992-02-03';

SELECT MIN(Salary) FROM emp_info GROUP BY age HAVING age > 25;

SELECT MAX(Room_charge) FROM T2_Billing GROUP BY LEFT(Payment_date,7) HAVING LEFT(Payment_date,7) LIKE '2021-%';

SELECT SUM(Service_cost) FROM T2_SERVICES GROUP BY Service_cost HAVING Service_cost BETWEEN 4000 AND 6000;
```

(No column name) 1 5000 2 6000 3 3000

SUM():

```
EUSE MOTEL;

SELECT AVG(number_of_beds) FROM T2_Rooms GROUP BY Room_location HAVING Room_location LIKE 'block%';

SELECT COUNT((ustomer_ID) FROM T2_Reservation GROUP BY Check_in_date HAVING Check_in_date >= '1992-02-03';

SELECT MIN(Salary) FROM emp_info GROUP BY age HAVING age > 25;

SELECT MAX(Room_charge) FROM T2_Billing GROUP BY LEFT(Payment_date,7) HAVING LEFT(Payment_date,7) LIKE '2021-%';

SELECT SUM(Service_cost) FROM T2_SERVICES GROUP BY Service_cost HAVING Service_cost BETWEEN 4000 AND 6000;

100 %

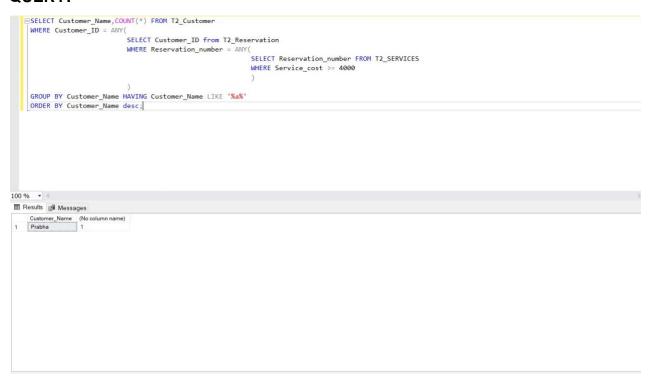
Results @M Messages

(Necolumn name)

1 4000
```

Q5) Write at least 3 nested queries using order by, group by and having clause.

QUERY:



Q6) Illustrate the Usage of Except, Exists, Not Exists, Union, Intersection

EXCEPT():

EXISTS():

```
-----EXCEPT-----
    SELECT Customer_ID FROM T2_Customer
     EXCEPT
     SELECT Customer_ID FROM T2_Reservation;
-----EXISTS-----
SELECT Customer_ID FROM T2_Rooms
     WHERE EXISTS
(SELECT Customer_ID FROM T2_Billing)
ORDER BY Customer_ID ASC;
-----NOT EXISTS------
    □SELECT * FROM T2_Customer
WHERE NOT EXISTS
    (SELECT Customer_ID FROM T2_Reservation);
    SELECT City FROM T2_CUSTOMER_ADDRESS
    UNION
    SELECT City FROM T2_Customer;
      -----INTERSECTION--
    SELECT Room_charge FROM T2_Billing
     INTERSECT
   SELECT Service_cost FROM T2_SERVICES;
Results Messages
Customer_ID

1 1
2 2
```

NOT EXISTS():

```
-----EXCEPT-----
   ☐SELECT Customer_ID FROM T2_Customer
    SELECT Customer_ID FROM T2_Reservation;
   SELECT Customer_ID FROM T2_Rooms
   SELECT City FROM T2_CUSTOMER_ADDRESS
    SELECT City FROM T2_Customer;
    -----INTERSECTION--------
SELECT Room_charge FROM T2_Billing
INTERSECT
   SELECT Service_cost FROM T2_SERVICES;
100 % + 4
Customer_ID Customer_Name Phone_number City State Zipcode Email_ID
UNION():
          -----EXCEPT-----
    SELECT Customer_ID FROM T2_Customer
     EXCEPT
     SELECT Customer_ID FROM T2_Reservation;
            ---EXISTS-
```

Results Messages

City

Bengaluru

hyderabad

Lucknow

Magpur

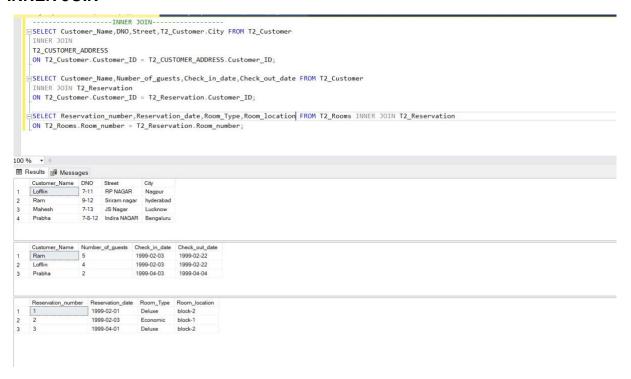
.00 % + 4

INTERSECT:

```
-----EXCEPT----
   □SELECT Customer_ID FROM T2_Customer
    EXCEPT
    SELECT Customer_ID FROM T2_Reservation;
            ---EXISTS-
   SELECT Customer_ID FROM T2_Rooms
    WHERE EXISTS
(SELECT Customer_ID FROM T2_Billing)
    ORDER BY Customer_ID ASC;
      -----NOT EXISTS-----
   SELECT * FROM T2_Customer
    WHERE NOT EXISTS
    (SELECT Customer_ID FROM T2_Reservation);
      ------UNION--
   SELECT City FROM T2_CUSTOMER_ADDRESS
    SELECT City FROM T2_Customer;
    SELECT Room_charge FROM T2_Billing
    SELECT Service_cost FROM T2_SERVICES;
100 % +
Room_charge
1 3000
```

Q7) INNER JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN- 3 queries for each instance

INNER JOIN



LEFT OUTER JOIN

```
----LEFT OUTER JOIN-----
     SELECT * FROM T2_Customer
     LEFT OUTER JOIN T2_Rooms
     ON T2_Customer.Customer_ID = T2_Rooms.Customer_ID;
     SELECT * FROM T2_CUSTOMER_ADDRESS
     LEFT OUTER JOIN T2_Reservation
ON T2_Reservation.Customer_ID = T2_CUSTOMER_ADDRESS.Customer_ID;
     SELECT * FROM emp_info LEFT OUTER JOIN
     T2_SERVICES ON

T2_SERVICES.Service_ID = emp_info.empid;
-----RIGHT OUTER JOIN-----
   SELECT * FROM T2_Rooms
   RIGHT OUTER JOIN T2 Customer
100 %
Email_ID
                                           Nagpur
                                                                      loff@gmail.com
                                           hyderabad TN
Lucknow UP
                Ram
                              8688543744
                                                              534204 Ram@gmail.com 1
                                                                                                 Deluxe
                                                                                                            block-2
                                                              534205 mah@gmail.com NULL NULL
                               8688543746
                           8688543766
                                           Bengaluru Karnataka 534201 prab@gmail.com 3
               Prabha
                                                                                                 Deluxe
                                                                                                            block-2
                                                          Reservation_number | Check_in_date | Check_out_date | Number_of_guests | Reservation_date | Customer_ID | Room_number | 2 | 1999-02-03 | 1999-02-03 | 1 | 2
     Customer_ID Street
1 RP NAGAR
                                            State Re
Madhya pradesh 2
                                  Nagpur
                Sriram nagar 9-12
JS Nagar 7-13
                                  hyderabad Telengana
Lucknow Utter pradesh
                                                                           1999-02-03
                                                                                        1999-02-22
                                                                                                                     1999-02-01
                                                                                                 NULL NULL
                                                                                        NULL
                                                                                                                              NULL NULL
                                                                           NULL
                Indira NAGAR 7-8-12 Bengaluru Karnataka
                                                                           1999-04-03
                                                                                       1999-04-04
                                                                                                                     1999-04-01
                    dob age Salary Service_ID Service na.3.3 Envice_cost
                                                                           Reservation_number
   1 Max
2 Jax
                     1959-04-05 62 10000 2
           Nax
                     1992-07-07 29 5000
                    2001-12-11 20 6000 NULL NULL
1976-05-30 45 10000 NULL NULL
                                                                            MILIT
                                                           NULL
           Chuck
                                                                           NULL
```

RIGHT OUTER JOIN

