

# COURSE TITLE: DATABASE SYSTEMS LAB COURSE CODE: BCSE302P

# **SQL JOINS**

NAME: PRIKSHIT PRIKSHIT 21BRS1594

**SLOT:** L21+L22

**CLASS NUMBER:** CH2022232501096

**DATE:** 15-APRIL, 2023

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Create three tables: salesman, customer and orders.

• SALESMAN(SALESMAN\_ID, NAME, CITY, COMMISSION)

#### CODE:

CREATE TABLE SALESMAN\_21BRS1594(SALESMAN\_ID INT PRIMARY KEY, NAME VARCHAR(15), CITY VARCHAR(15), COMMISSION INT);

SALESMAN_ID	NAME	CITY	COMMISSION
1	Α	DELHI	5
2	В	CHANDIGARH	10
3	С	CHENNAI	15
4	D	PUNE	20
5	Ε	AHMEDABAD	25
6	F	NASIK	30
7	G	BENGALURU	45
8	Н	DELHI	55
9	I	CHENNAI	47
10	J	CHENNAI	69

• CUSTOMER(CUSTOMER\_ID, CUST\_NAME, CITY, GRADE, SALESMAN\_ID) **CODE**:

CREATE TABLE CUSTOMER\_21BRS1594(CUSTOMER\_ID INT PRIMARY KEY, CUST\_NAME VARCHAR(15), CITY VARCHAR(15), GRADE INT, SALESMAN\_ID INT,FOREIGN KEY (SALESMAN\_ID) REFERENCES SALESMAN\_21BRS1594(SALESMAN\_ID));

CUSTOMER_ID	CUST_NAME	CITY	GRADE	SALESMAN_ID
11	AMAN	VELLORE	1000	1
12	AMIT	VARANASI	950	1
13	BHAVYA	BHOPAL	900	2
14	BHAVNA	CHENNAI	900	NULL
15	CHETANYA	PATNA	800	3
16	CHIRAG	CHANDIGARH	810	3
17	DIVYAM	PANJIM	700	4
18	DHRUV	CHENNAI	600	NULL
19	FIROJ	DELHI	100	5
20	FALGUNI	DELHI	60	6
21	GAUTAM	CHANDIGARH	120	NULL
22	GEHENA	DEHRADUN	70	NULL
23	ISHA	CHENNAI	190	7
24	JASHANPREET	PUNE	400	8
25	KESHAV	BHOPAL	470	9
26	KAMINI	PANCHKULA	440	9
27	PRATHAM	NASIK	190	10
28	KASHISH	GURUGRAM	420	10

• ORDERS(ORDER\_NO, ORDER\_AMT, ORDER\_DATE, CUST\_ID, SALESMAN\_ID) **CODE**:

CREATE TABLE ORDER\_21BRS1594(ORDER\_NO INT PRIMARY KEY, ORDER\_AMT DECIMAL(10,2), ORDER\_DATE DATE, CUST\_ID INT, SALESMAN\_ID INT, FOREIGN KEY (SALESMAN\_ID) REFERENCES SALESMAN\_21BRS1594 (SALESMAN\_ID) ,FOREIGN KEY(CUST\_ID) REFERENCES CUSTOMER\_21BRS1594(CUSTOMER\_ID) );

RDER_NO	ORDER_AMT	ORDER_DATE	CUST_ID	SALESMAN_ID
111	1000.00	   2010-06-23	11	1
112	1090.00	2010-06-23	11	1
113	3000.00	2010-06-23	12	1
114	1099.00	2010-06-23	12	1
115	1100.00	2010-06-23	13	2
116	90.00	2010-06-23	13	2
117	3500.00	2010-06-23	14	NULL
118	1099.00	2010-06-23	14	NULL
119	1500.00	2010-06-23	15	3
120	909.00	2010-06-23	15	3
121	350.00	2011-06-23	16	3
122	10999.00	2011-06-23	16	3
123	15000.00	2011-06-23	17	4
124	9009.00	2011-06-23	18	NULL
125	3509.00	2011-06-23	19	5
126	8999.00	2011-06-23	20	6
127	1000.00	2011-06-23	21	NULL
128	9999.00	2011-06-23	22	NULL
129	3999.00	2011-06-23	23	7
130	8989.00	2011-06-23	24	8
131	5000.00	2011-06-23	25	9
132	5999.00	2011-06-23	26	9
133	7999.00	2011-06-23	27	10
134	989.00	2011-06-23	28	10

1. Prepare a list with salesman name, customer name and their cities for the salesmen and customer who belongs to the same city.

#### CODE:

SELECT S.NAME AS SALESMAN\_NAME, C.CUST\_NAME AS CUSTOMER\_NAME, S.CITY FROM SALESMAN\_21BRS1594 S JOIN CUSTOMER\_21BRS1594 C ON S.CITY = C.CITY;

# **OUTPUT:**



2. Make a list with order no, purchase amount, customer name and their cities for those orders which order amount between 500 and 2000.

#### CODE:

SELECT O.ORDER\_NO, O.ORDER\_AMT, C.CUST\_NAME, C.CITY FROM ORDER\_21BRS1594 O JOIN CUSTOMER\_21BRS1594 C ON O.CUST\_ID = C.CUSTOMER ID WHERE O.ORDER AMT BETWEEN 500 AND 2000;



3. Know which salesman is working for which customer.

#### CODE:

SELECT S.NAME, C.CUST\_NAME FROM SALESMAN\_21BRS1594 S JOIN CUSTOMER\_21BRS1594 C ON S.SALESMAN\_ID = C.SALESMAN\_ID;

#### **OUTPUT**:

```
[mysql> SELECT S.NAME, C.CUST_NAME FROM SALESMAN_21BRS1594 S JOIN CUSTOMER_21BRS1594 C ON S.SALESMAN_ID = C.SALESMAN_ID;
 NAME | CUST_NAME
         AMAN
         AMIT
  В
         BHAVYA
 С
         CHETANYA
         CHIRAG
  D
         DIVYAM
         FIROJ
 F
G
         FALGUNI
         ISHA
  H
I
I
         JASHANPREET
         KESHAV
         KAMINI
  J
J
         PRATHAM
         KASHISH
14 rows in set (0.01 sec)
```

4. Find the list of customers who appointed a salesman for their jobs who gets a commission from the company is more than 12%.

#### CODE:

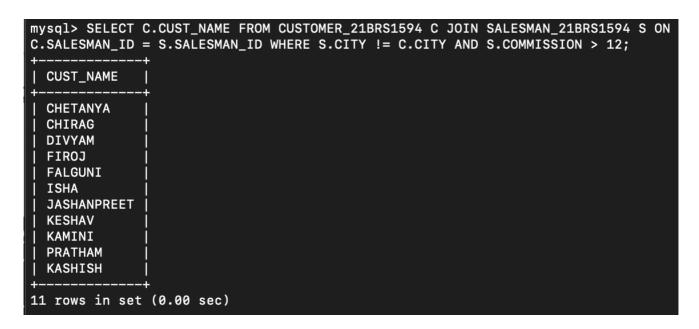
SELECT C.CUST\_NAME FROM CUSTOMER\_21BRS1594 C JOIN SALESMAN \_21BRS1594 S ON C.SALESMAN\_ID = S.SALESMAN\_ID WHERE S.COMMISSION > 12;

5. Find the list of customers who appointed a salesman for their jobs who does not live in the same city where their customer lives, and gets a commission is above 12%.

#### CODE:

SELECT C.CUST\_NAME FROM CUSTOMER\_21BRS1594 C JOIN SALESMAN\_21BRS1594 S ON C.SALESMAN\_ID = S.SALESMAN\_ID WHERE S.CITY != C.CITY AND S.COMMISSION > 12;

#### **OUTPUT**:



6. Find the details of an order i.e. order number, order date, amount of order, which customer gives the order and which salesman works for that customer and how much commission he gets for an order.

#### CODE:

SELECT O.ORDER\_NO, O.ORDER\_DATE, O.ORDER\_AMT, C.CUST\_NAME AS CUSTOMER\_NAME, S.NAME AS SALESMAN\_NAME, S.COMMISSION FROM ORDER\_21BRS1594 O JOIN CUSTOMER\_21BRS1594 C ON O.CUST\_ID = C.CUSTOMER\_ID JOIN SALESMAN\_21BRS1594 S ON O.SALESMAN\_ID = S.SALESMAN\_ID;

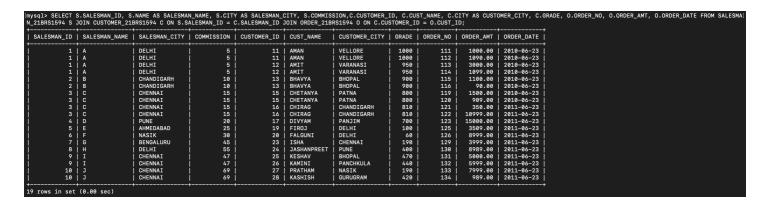
RDER_NO	ORDER_DATE	ORDER_AMT	CUSTOMER_NAME	SALESMAN_NAME	COMMISSION	
111	2010-06-23	1000.00	AMAN	A	5	
112	2010-06-23	1090.00	AMAN	A	5	
113	2010-06-23	3000.00	AMIT	A	5	
114	2010-06-23	1099.00	AMIT	A	5	
115	2010-06-23	1100.00	BHAVYA	B	10	
116	2010-06-23	90.00	BHAVYA	B	10	
119	2010-06-23	1500.00	CHETANYA	C	15	
120	2010-06-23	909.00	CHETANYA	C	15	
121	2011-06-23	350.00	CHIRAG	C	15	
122	2011-06-23	10999.00	CHIRAG	C	15	
123	2011-06-23	15000.00	DIVYAM	D	20	
125	2011-06-23	3509.00	FIROJ	E	25	
126	2011-06-23	8999.00	FALGUNI	F	30	
129	2011-06-23	3999.00	ISHA	G	45	
130	2011-06-23	8989.00	JASHANPREET	H	55	
131	2011-06-23	5000.00	KESHAV	I	47	
132	2011-06-23	5999.00	KAMINI	I	47	
133	2011-06-23	7999.00	PRATHAM	J	69	
134	2011-06-23	989.00	KASHISH	J	69	

7. Make a join on the tables: salesman, customer and orders in such a form that the same column of each table will appear once and only the relational rows will come.

#### CODE:

SELECT S.SALESMAN\_ID, S.NAME AS SALESMAN\_NAME, S.CITY AS SALESMAN\_CITY, S.COMMISSION,C.CUSTOMER\_ID, C.CUST\_NAME, C.CITY AS CUSTOMER\_CITY, C.GRADE, O.ORDER\_NO, O.ORDER\_AMT, O.ORDER\_DATE FROM SALESMAN\_21BRS1594 S JOIN CUSTOMER\_21BRS1594 C ON S.SALESMAN\_ID = C.SALESMAN\_ID JOIN ORDER\_21BRS1594 O ON C.CUSTOMER\_ID = O.CUST\_ID;

# **OUTPUT**:



8. Make a list in ascending order for the customer who works either through a salesman or by own.

# CODE:

SELECT C.CUST\_NAME FROM CUSTOMER\_21BRS1594 C LEFT JOIN SALESMAN\_21BRS1594 S ON C.SALESMAN\_ID = S.SALESMAN\_ID WHERE C.SALESMAN\_ID IS NOT NULL OR C.SALESMAN\_ID IS NULL ORDER BY C.CUST\_NAME ASC;



9. Make a list in ascending order for the customer who holds a grade less than 300 and works either through a salesman or by own.

#### CODE:

SELECT C.CUST\_NAME FROM CUSTOMER\_21BRS1594 C LEFT JOIN SALESMAN\_21BRS1594 S ON C.SALESMAN\_ID = S.SALESMAN\_ID WHERE C.GRADE<300 AND (C.SALESMAN\_ID IS NOT NULL OR C.SALESMAN\_ID IS NULL) ORDER BY C.CUST\_NAME ASC;

#### **OUTPUT:**

10. Make a list in ascending order for the salesmen who work either for one or more customer or not yet join under any of the customers.

# CODE:

SELECT S.NAME AS SALESMAN\_NAME FROM SALESMAN\_21BRS1594 S LEFT JOIN CUSTOMER\_21BRS1594 C ON S.SALESMAN\_ID = C.SALESMAN\_ID WHERE C.CUSTOMER\_ID IS NOT NULL OR C.CUSTOMER ID IS NULL ORDER BY S.NAME ASC



11. Make a list for the salesmen who work either for one or more customer or not yet join under any of the customers who placed either one or more orders or no order to their supplier.

#### CODE:

SELECT S.NAME AS SALESMAN\_NAME FROM SALESMAN\_21BRS1594 S LEFT JOIN CUSTOMER\_21BRS1594 C ON S.SALESMAN\_ID = C.SALESMAN\_ID LEFT JOIN ORDER\_21BRS1594 O ON C.CUSTOMER\_ID = O.CUST\_ID WHERE (C.CUSTOMER\_ID IS NOT NULL OR C.CUSTOMER\_ID IS NULL) AND (O.ORDER NO IS NOT NULL OR O.ORDER NO IS NULL) ORDER BY S.NAME ASC;

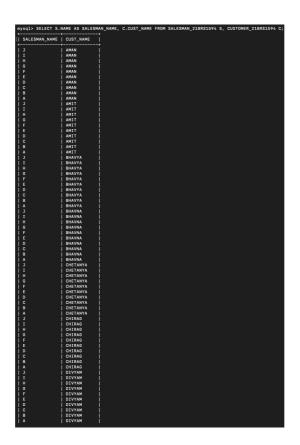
#### **OUTPUT**:



12. Make a Cartesian product between salesman and customer i.e. each salesman will appear for all customers and vice versa.

# CODE:

SELECT S.NAME AS SALESMAN\_NAME, C.CUST\_NAME FROM SALESMAN\_21BRS1594 S, CUSTOMER\_21BRS1594 C;



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