Lab Program 2: ORDER DATABASE

Consider the following schema for Order Database:

SALESMAN(Salesman_id, Name, City, Commission)

CUSTOMER(Customer_id, Cust_Name, City, Grade, Salesman_id)

ORDERS(Ord_No, Purchase_Amt, Ord_Date, Customer_id, Salesman_id)

Write SQL queries to

1. Count the customers with grades above Bangalore's average.

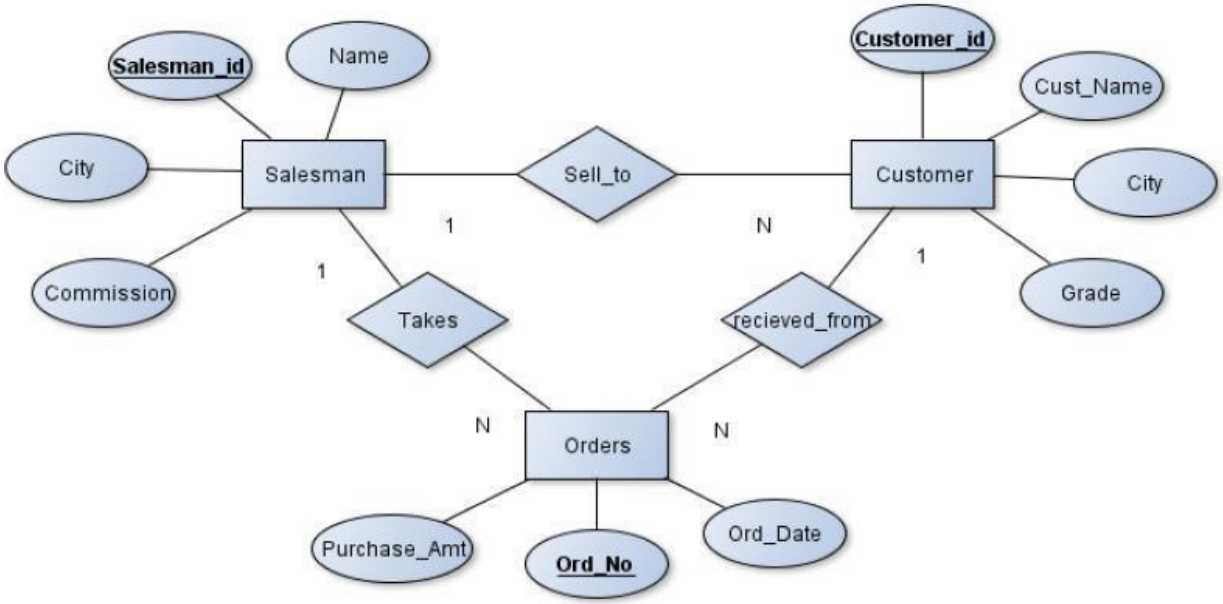
2. Find the name and numbers of all salesman who had more than one customer.

3. List all the salesman and indicate those who have and don't have customers in their cities (Use UNION operation.)

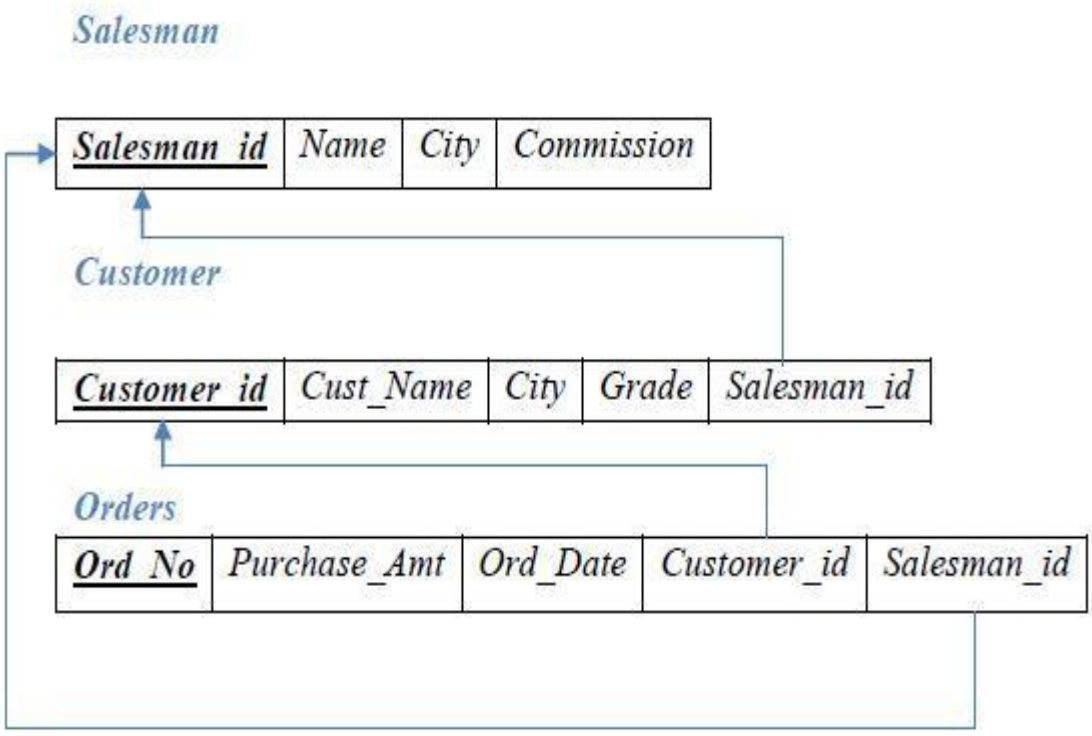
4. Create a view that finds the salesman who has the customer with the highest order of a day.

5. Demonstrate the DELETE operation by removing salesman with id 1000. All his orders must also be deleted.

ER-Diagram:



SCHEMA:



--CREATING TABLES

```
CREATE TABLE SALESMAN (SALESMAN_ID INT PRIMARY KEY, NAME
VARCHAR(20), CITY VARCHAR(20), COMMISSION VARCHAR(10));

CREATE TABLE CUSTOMER (CUSTOMER_ID INT PRIMARY KEY, CUST_NAME
VARCHAR(20), CITY VARCHAR(20), GRADE NUMBER(3), SALESMAN_ID
REFERENCES SALESMAN(SALESMAN_ID) ON DELETE SET NULL);

CREATE TABLE ORDERS (ORD_NO INT PRIMARY KEY, PURCHASE_AMT
NUMBER(10,2), ORD_DATE DATE, CUSTOMER_ID REFERENCES
CUSTOMER(CUSTOMER_ID) ON DELETE CASCADE,
SALESMAN_ID REFERENCES SALESMAN(SALESMAN_ID) ON DELETE CASCADE);
```

--INSERTING VALUES

```
INSERT INTO SALESMAN VALUES (1000, 'KABIR', 'BANGALORE', '25%');
INSERT INTO SALESMAN VALUES (2000, 'ALIA', 'MUMBAI', '15%');
INSERT INTO SALESMAN VALUES (3000, 'AYAAN', 'JAIPUR', '5%');
INSERT INTO SALESMAN VALUES (4000, 'ZARA', 'MANALI', '20%');
INSERT INTO SALESMAN VALUES (5000, 'TARA', 'KOLKATA', '30%');

INSERT INTO CUSTOMER VALUES (100, 'ELENA', 'BANGALORE', 500, 1000);
INSERT INTO CUSTOMER VALUES (101, 'SHELDON', 'HYDERABAD', 300, 1000);
INSERT INTO CUSTOMER VALUES (102, 'PENNY', 'KOLKATA', 800, 5000);
INSERT INTO CUSTOMER VALUES (103, 'SERENA', 'MANALI', 900, 4000);
INSERT INTO CUSTOMER VALUES (104, 'CLAY', 'CHENNAI', 500, 4000);

INSERT INTO ORDERS VALUES (1, 1000.70, '04-JAN-2021',100,1000);
INSERT INTO ORDERS VALUES (2, 3000.50, '28-SEP-2020',101,1000);
INSERT INTO ORDERS VALUES (3, 800.70, '25-DEC-2019',102,5000);
INSERT INTO ORDERS VALUES (4, 700.25, '25-JUL-2018',103,4000);
INSERT INTO ORDERS VALUES (5, 3000.25, '03-AUG-2017',104,4000);
```

--Queries

/*1. Count the customers with grades above Bangalore's average.*/

```
SELECT GRADE, COUNT(DISTINCT CUSTOMER_ID)
FROM CUSTOMER
GROUP BY GRADE
HAVING GRADE > ( SELECT AVG(GRADE)
        FROM CUSTOMER
        WHERE CITY = 'BANGALORE');
```

/* RESULT of QUERY1:

GRADE	**COUNT(DISTINCTCUSTOMER_ID)**
900	**1**
800	**1**

***/**

/*2. Find the name and numbers of all salesman who had more than one customer.*/

```
SELECT SALESMAN_ID, NAME
FROM SALESMAN S
WHERE 1 < ( SELECT COUNT(*)
      FROM CUSTOMER
      WHERE SALESMAN_ID = S.SALESMAN_ID);
```

/* RESULT of QUERY2:

SALESMAN_ID	**NAME**
1000	**KABIR**
4000	**ZARA**

***/**

/*3. List all the salesman and indicate those who have and don't have customers in their cities (Use UNION operation.)*/

```
SELECT DISTINCT S.SALESMAN_ID,S.NAME,'SAME CITY' FROM CUSTOMER
C,SALESMAN S WHERE
C.SALESMAN_ID=S.SALESMAN_ID AND C.CITY=S.CITY
 UNION
 SELECT DISTINCT
S.SALESMAN_ID,S.NAME,'DIFFERENT CITY' FROM CUSTOMER C,SALESMAN S
WHERE
C.SALESMAN_ID=S.SALESMAN_ID AND C.CITY != S.CITY
 UNION SELECT DISTINCT S.SALESMAN_ID,S.NAME,'NO
CUSTOMER' FROM SALESMAN S WHERE SALESMAN_ID NOT IN (SELECT
SALESMAN_ID FROM CUSTOMER);
```

/* RESULT of QUERY3:

SALESMAN_ID	NAME	'same city'
1000	KABIR	different city
1000	KABIR	same city
2000	ALIA	no customer
3000	AYAAN	no customer
4000	ZARA	different city
4000	ZARA	same city
5000	TARA	same city

*/

/*4. Create a view that finds the salesman who has the customer with the highest order of a day.*/

```
CREATE VIEW HIGHEST AS

SELECT O.ORD_DATE, S.SALESMAN_ID, S.NAME

FROM SALESMAN S, ORDERS O

WHERE S.SALESMAN_ID = O.SALESMAN_ID

      AND O.PURCHASE_AMT = ( SELECT MAX(PURCHASE_AMT)

                  FROM ORDERS R

                  WHERE R.ORD_DATE = O.ORD_DATE);

SELECT * FROM HIGHEST;
```

/* RESULT of QUERY4:

ORD_DATE	SALESMAN_ID	NAME
04-JAN-21	1000	KABIR
28-SEP-20	1000	KABIR
25-DEC-19	5000	TARA
25-JUL-18	4000	ZARA
03-AUG-17	4000	ZARA

***/**

/*5. Demonstrate the DELETE operation by removing salesman with id 1000. All his orders must also be deleted.*/

```
DELETE FROM SALESMAN

WHERE SALESMAN_ID=1000;

SELECT * FROM SALESMAN;
```

/* RESULT of QUERY5:

SALESMAN_ID	NAME	CITY	COMMISSION
2000	ALIA	MUMBAI	15%
3000	AYAAN	JAIPUR	5%
4000	ZARA	MANALI	20%
5000	TARA	KOLKATA	30%

***/**