LAB PROGRAM - 2

2. 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 salesmen who had more than one customer.

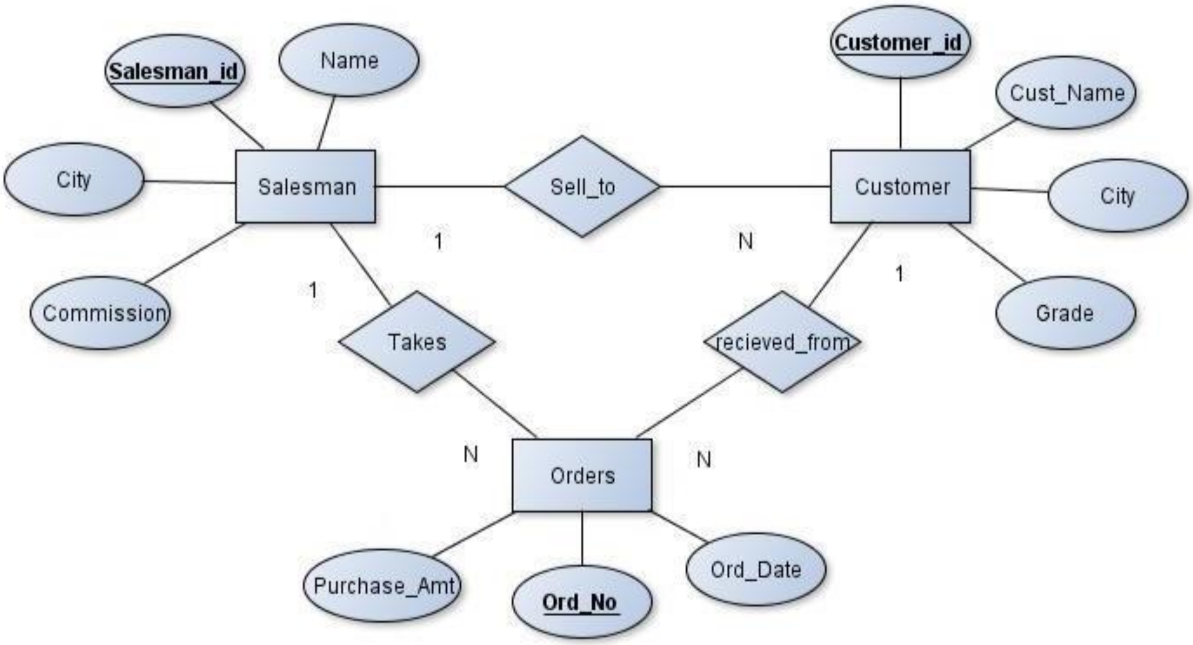
3. List all salesmen and indicate those who have and don't have customers in their cities (Use UNION operation.)

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.

Solution:

Entity-Relationship Diagram



Schema Diagram

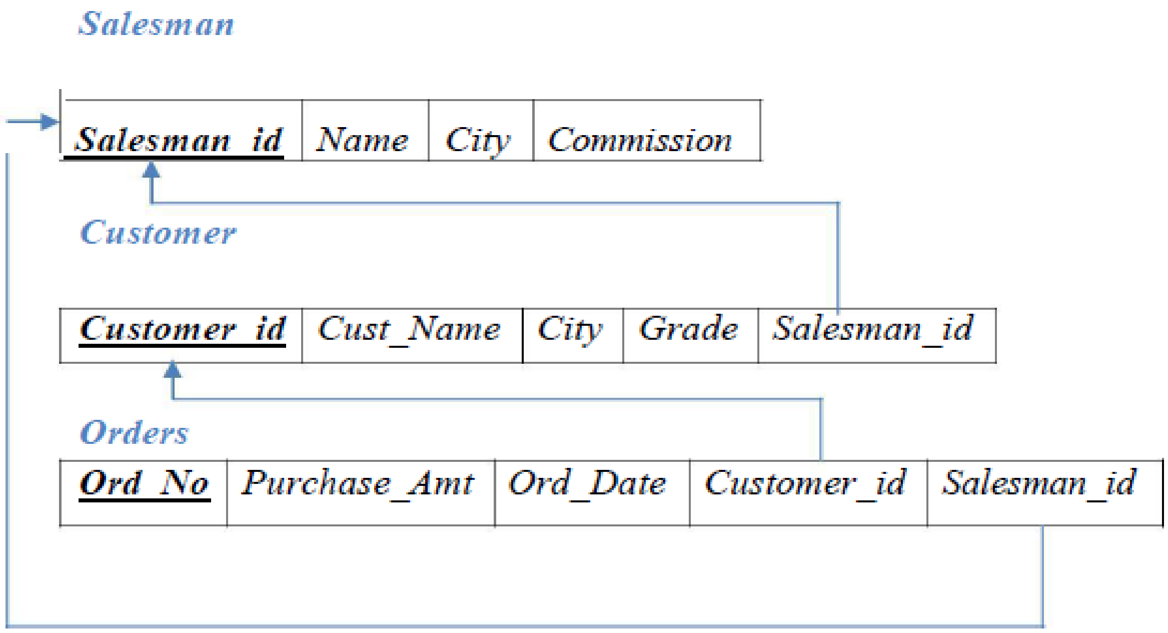


TABLE CREATION

Create Table SALESMAN with Primary Key as SALESMAN_ID

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

DESC SALESMAN;
```

Create Table CUSTOMER with Primary Key as CUSTOMER_ID and Foreign Key SALESMAN_ID referring the SALESMAN table

```
CREATE TABLE CUSTOMER(

CUSTOMER_ID INTEGER PRIMARY KEY,

CUST_NAME VARCHAR(20),

CITY VARCHAR(20),

GRADE INTEGER,

SALESMAN_ID INTEGER,

FOREIGN KEY (SALESMAN_ID) REFERENCES SALESMAN(SALESMAN_ID) ON
DELETE SET NULL);


DESC CUSTOMER;
```

Create Table ORDERS with Primary Key as ORDER_NO and Foreign Key CUSTOMER_ID and SALESMAN_ID referring the CUSTOMER and SALESMAN tables respectively

```
CREATE TABLE ORDERS(

ORDER_NO INTEGER PRIMARY KEY,

PURCHASE_AMOUNT DECIMAL(10,2),

ORDER_DATE DATE,

CUSTOMER_ID INTEGER,

SALESMAN_ID INTEGER,

FOREIGN KEY (CUSTOMER_ID) REFERENCES CUSTOMER(CUSTOMER_ID)ON
DELETE CASCADE,

FOREIGN KEY (SALESMAN_ID) REFERENCES SALESMAN(SALESMAN_ID) ON
DELETE CASCADE);


DESC ORDERS;
```

INSERTING VALUES

Inserting records into SALESMAN table

```
INSERT INTO SALESMAN VALUES(1000,'RAHUL','BANGALORE','20%');
INSERT INTO SALESMAN VALUES(2000,'ANKITA','BANGALORE','25%');
INSERT INTO SALESMAN VALUES(3000,'SHARMA','MYSORE','30%');
INSERT INTO SALESMAN VALUES(4000,'ANJALI','DELHI','15%');
INSERT INTO SALESMAN VALUES(5000,'RAJ','HYDERABAD','15%');

SELECT * FROM SALESMAN;
```

Inserting records into CUSTOMER table

```
INSERT INTO CUSTOMER VALUES(1,'ADYA','BANGALORE',100,1000);
INSERT INTO CUSTOMER VALUES(2,'BANU','MANGALORE',300,1000);
INSERT INTO CUSTOMER VALUES(3,'CHETHAN','CHENNAI',400,2000);
INSERT INTO CUSTOMER VALUES(4,'DANISH','BANGALORE',200,2000);
INSERT INTO CUSTOMER VALUES(5,'ESHA','BANGALORE',400,3000);

SELECT * FROM CUSTOMER;
```

Inserting records into ORDERS table

```
INSERT INTO ORDERS VALUES(201,5000,'2020-06-02',1,1000);
INSERT INTO ORDERS VALUES(202,450,'2020-04-09',1,2000);
INSERT INTO ORDERS VALUES(203,1000,'2020-03-15',3,2000);
INSERT INTO ORDERS VALUES(204,3500,'2020-07-09',4,3000);
INSERT INTO ORDERS VALUES(205,550,'2020-05-05',2,2000);

SELECT * FROM ORDERS;
```

QUERIES

I) 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');
```

II) Find the name and numbers of all salesman who had more than one customer

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

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

```
SELECT S.SALESMAN_ID, S.NAME, C.CUST_NAME, S.COMMISSION
FROM SALESMAN S, CUSTOMER C
WHERE S.CITY=C.CITY
UNION
SELECT S.SALESMAN_ID,S.NAME,'NO MATCH',S.COMMISSION
FROM SALESMAN S
WHERE CITY NOT IN
```

```
(SELECT CITY
FROM CUSTOMER)
ORDER BY 1 ASC;
```

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

```
CREATE VIEW V_SALESMAN AS
SELECT O.ORDER_DATE, S.SALESMAN_ID, S.NAME
FROM SALESMAN S,ORDERS O
WHERE S.SALESMAN_ID = O.SALESMAN_ID
AND O.PURCHASE_AMOUNT= (SELECT MAX(PURCHASE_AMOUNT)
FROM ORDERS C
WHERE C.ORDER_DATE=O.ORDER_DATE);

SELECT * FROM V_SALESMAN;
```

V) 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;

SELECT * FROM ORDERS;
```