**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.

**Create the above tables by properly specifying the primary keys and the foreign keys using alter table option.**

CREATE TABLE SALESMAN

(SALESMAN\_ID INTEGER (4),

NAME VARCHAR (20),

CITY VARCHAR (20),

COMMISSION VARCHAR (20),

PRIMARY KEY (SALESMAN\_ID));

CREATE TABLE CUSTOMER1

(CUSTOMER\_ID INTEGER (4),

CUST\_NAME VARCHAR (20),

CITY VARCHAR (20),

GRADE INTEGER (3),

PRIMARY KEY (CUSTOMER\_ID),

SALESMAN\_ID INTEGER (4) REFERENCES SALESMAN (SALESMAN\_ID) ON DELETE SET NULL);

CREATE TABLE ORDERS

(ORD\_NO INTEGER (5),

PURCHASE\_AMT INTEGER (10, 2),

ORD\_DATE DATE,

PRIMARY KEY (ORD\_NO),

CUSTOMER\_ID INTEGER(4) REFERENCES CUSTOMER1(CUSTOMER\_ID), SALESMAN\_ID INTEGER (4) REFERENCES SALESMAN (SALESMAN\_ID) ON DELETE CASCADE);

**Insertion of Values to Tables**

INSERT INTO SALESMAN VALUES (1000, ‘JOHN’,’BANGALORE’,’25 %’);

INSERT INTO SALESMAN VALUES (2000, ‘RAVI’,’BANGALORE’,’20 %’);

INSERT INTO SALESMAN VALUES (3000, ‘KUMAR’,’MYSORE’,’15 %’);

INSERT INTO SALESMAN VALUES (4000, ‘SMITH’,’DELHI’,’30 %’);

INSERT INTO SALESMAN VALUES (5000, ‘HARSHA’,’HYDRABAD’,’15 %’);

INSERT INTO CUSTOMER1 VALUES (10, ‘PREETHI’,’BANGALORE’, 100, 1000);

INSERT INTO CUSTOMER1 VALUES (11, ‘VIVEK’,’MANGALORE’, 300, 1000);

INSERT INTO CUSTOMER1 VALUES (12, ‘BHASKAR’,’CHENNAI’, 400, 2000);

INSERT INTO CUSTOMER1 VALUES (13, ‘CHETHAN’,’BANGALORE’, 200, 2000);

INSERT INTO CUSTOMER1 VALUES (14, ‘MAMATHA’,’BANGALORE’, 400, 3000);

INSERT INTO ORDERS VALUES (50, 5000, ‘04-MAY-17’, 10, 1000);

INSERT INTO ORDERS VALUES (51, 450, ‘20-JAN-17’, 10, 2000);

INSERT INTO ORDERS VALUES (52, 1000, ‘24-FEB-17’, 13, 2000);

INSERT INTO ORDERS VALUES (53, 3500, ‘13-APR-17’, 14, 3000);

INSERT INTO ORDERS VALUES (54, 550, ‘09-MAR-17’, 12, 2000);

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

SELECT GRADE, COUNT (DISTINCT CUSTOMER\_ID)

FROM CUSTOMER1

GROUP BY GRADE

HAVING GRADE > (SELECT AVG(GRADE)

FROM CUSTOMER1

WHERE CITY='BANGALORE');

1. **Find the name and numbers of all salesmen who had more than one customer.**

SELECT SALESMAN\_ID, NAME

FROM SALESMAN A

WHERE 1 < (SELECT COUNT (\*)

FROM CUSTOMER1

WHERE SALESMAN\_ID=A.SALESMAN\_ID);

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

SELECT SALESMAN.SALESMAN\_ID, NAME, CUST\_NAME, COMMISSION

FROM SALESMAN, CUSTOMER1

WHERE SALESMAN.CITY = CUSTOMER1.CITY

UNION

SELECT SALESMAN\_ID, NAME, 'NO MATCH', COMMISSION

FROM SALESMAN

WHERE NOT CITY = ANY

(SELECT CITY

FROM CUSTOMER1)

ORDER BY 2 DESC;

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

CREATE VIEW ELITSALESMAN AS

SELECT B.ORD\_DATE, A.SALESMAN\_ID, A.NAME

FROM SALESMAN A, ORDERS B

WHERE A.SALESMAN\_ID = B.SALESMAN\_ID

AND B.PURCHASE\_AMT=(SELECT MAX (PURCHASE\_AMT)

FROM ORDERS C

WHERE C.ORD\_DATE = B.ORD\_DATE);

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

Use ON DELETE CASCADE at the end of foreign key definitions while creating child table orders and then execute the following:

Use ON DELETE SET NULL at the end of foreign key definitions while creating child table

DELETE FROM SALESMAN

WHERE SALESMAN\_ID=1000;

1. **Update the purchase amount to 9000 for given order.**

UPDATE ORDERS

SET PURCHASE\_AMT=9000

WHERE ORDER\_NO=’&ORDER\_NO’;