Ex. No: 4 Date: 18 – 08 - 2022

**Experiment 4**

**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

#### 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 do not 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.

#### Creation of Tables

SQL> CREATE TABLE Salesman (Salesman\_id number(4), Name varchar2(20), City varchar2(20), Commission varchar2(20), primary key(Salesman\_id));

SQL> CREATE TABLE Customer1 (Customer\_id number(4), Cust\_Name varchar2(20), City varchar2(20), Grade number(3), primary key(Customer\_id), Salesman\_id references Salesman(Salesman\_id) on delete set null);

SQL> CREATE TABLE Orders (Ord\_No number(5), Purchase\_Amt number(10,2), Ord\_Date Date, Customer\_id references Customer1(Customer\_id) on delete cascade , Salesman\_id references Salesman(Salesman\_id) on delete cascade);

**Insertion of Values to Tables**

SQL> INSERT INTO Salesman VALUES (1000, 'JOHN', 'BANGALORE', '25%');

SQL> INSERT INTO Salesman VALUES (2000, 'RAVI', 'BANGALORE', '20%');

SQL> INSERT INTO Salesman VALUES (3000, 'KUMAR', 'MYSORE', '15%');

SQL> INSERT INTO Salesman VALUES (4000, 'SMITH', 'DELHI', '30%');

SQL> INSERT INTO Salesman VALUES (5000, 'HARSHA', 'HYDRABAD', '15%');

SQL> INSERT INTO Customer1 VALUES (10, 'PREETHI', 'BANGALORE', 100, 1000);

SQL> INSERT INTO Customer1 VALUES (11, 'VIVEK', 'MANGALORE', 300, 1000);

SQL> INSERT INTO Customer1 VALUES (12, 'BHASKAR', 'CHENNAI', 400, 2000);

SQL> INSERT INTO Customer1 VALUES (13, 'CHETHAN', 'BANGALORE', 200, 2000);

SQL> INSERT INTO Customer1 VALUES (14, 'MAMATHA', 'BANGALORE', 400, 3000);

SQL> INSERT INTO Orders VALUES (50, 5000, '04-MAY-2017', 10, 1000);

SQL> INSERT INTO Orders VALUES (51, 450, '20-JAN-2017', 10, 2000);

SQL> INSERT INTO Orders VALUES (52, 1000, '24-FEB-2017', 13, 2000);

SQL> INSERT INTO Orders VALUES (53, 3500, '13-APR-2017', 14, 3000);

SQL> INSERT INTO Orders VALUES (54, 550, '09-MAR-2017', 12, 2000);

**Queries:**

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

SQL> SELECT Grade, COUNT (\*) FROM Customer1 GROUP BY Grade HAVING Grade > (SELECT AVG(Grade) FROM Customer1 WHERE City = 'BANGALORE');

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

SQL> SELECT Salesman\_id, Name FROM Salesman S WHERE 1 < (SELECT COUNT(\*) FROM Customer WHERE Salesman\_id=S.Salesman\_id);

**3. List all salesmen and indicate those who have and do not have customers in their cities.**

**(Use UNION operation.)**

SQL> SELECT S.Salesman\_id, Name, Cust\_name, Commission FROM Salesman S, Customer1 C WHERE S.City = C.City UNION (SELECT Salesman\_id, Name, 'NO MATCH', Commission FROM Salesman WHERE NOT City = ANY (SELECT City FROM Customer1)) ORDER BY 2 DESC;

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

**of a day.**

SQL> CREATE VIEW bestsalesman AS SELECT B.Ord\_date, S.Salesman\_id, S.Name FROM Salesman S, Orders B WHERE S.Salesman\_id = B.Salesman\_id AND B. Purchase\_Amt = (SELECT MAX (Purchase\_Amt) FROM Orders O WHERE O.Ord\_date = B.Ord\_date);

**5. Demonstrate the DELETE operation by removing salesman with id 1000. All his**

**orders must also be deleted.**

SQL> DELETE FROM Salesman WHERE Salesman\_id=1000;

**Code:**

SQL> CREATE TABLE Salesman (Salesman\_id number(4), Name varchar2(20), City varchar2(20), Commission varchar2(20), primary key(Salesman\_id));

Table created.

SQL> CREATE TABLE Customer1 (Customer\_id number(4), Cust\_Name varchar2(20), City varchar2(20), Grade number(3), primary key(Customer\_id), Salesman\_id references Salesman(Salesman\_id) on delete set null);

Table created.

SQL> CREATE TABLE Orders (Ord\_No number(5), Purchase\_Amt number(10,2), Ord\_Date Date, Customer\_id references Customer1(Customer\_id) on delete cascade , Salesman\_id references Salesman(Salesman\_id) on delete cascade);

Table created.

SQL> desc salesman;

Name Null? Type

----------------------------------------- -------- ----------------------------

SALESMAN\_ID NOT NULL NUMBER(4)

NAME VARCHAR2(20)

CITY VARCHAR2(20)

COMMISSION VARCHAR2(20)

SQL> desc customer1;

Name Null? Type

----------------------------------------- -------- ----------------------------

CUSTOMER\_ID NOT NULL NUMBER(4)

CUST\_NAME VARCHAR2(20)

CITY VARCHAR2(20)

GRADE NUMBER(3)

SALESMAN\_ID NUMBER(4)

SQL> desc orders;

Name Null? Type

----------------------------------------- -------- ----------------------------

ORD\_NO NUMBER(5)

PURCHASE\_AMT NUMBER(10,2)

ORD\_DATE DATE

CUSTOMER\_ID NUMBER(4)

SALESMAN\_ID NUMBER(4)

SQL> INSERT INTO Salesman VALUES (1000, 'JOHN', 'BANGALORE', '25%');

1 row created.

SQL> INSERT INTO Salesman VALUES (2000, 'RAVI', 'BANGALORE', '20%');

1 row created.

SQL> INSERT INTO Salesman VALUES (3000, 'KUMAR', 'MYSORE', '15%');

1 row created.

SQL> INSERT INTO Salesman VALUES (4000, 'SMITH', 'DELHI', '30%');

1 row created.

SQL> INSERT INTO Salesman VALUES (5000, 'HARSHA', 'HYDRABAD', '15%');

1 row created.

SQL> select \* from salesman;

SALESMAN\_ID NAME CITY COMMISSION

----------- -------------------- -------------------- --------------------

1000 JOHN BANGALORE 25%

2000 RAVI BANGALORE 20%

3000 KUMAR MYSORE 15%

4000 SMITH DELHI 30%

5000 HARSHA HYDRABAD 15%

SQL> INSERT INTO Customer1 VALUES (10, 'PREETHI', 'BANGALORE', 100, 1000);

1 row created.

SQL> INSERT INTO Customer1 VALUES (11, 'VIVEK', 'MANGALORE', 300, 1000);

1 row created.

SQL> INSERT INTO Customer1 VALUES (12, 'BHASKAR', 'CHENNAI', 400, 2000);

1 row created.

SQL> INSERT INTO Customer1 VALUES (13, 'CHETHAN', 'BANGALORE', 200, 2000);

1 row created.

SQL> INSERT INTO Customer1 VALUES (14, 'MAMATHA', 'BANGALORE', 400, 3000);

1 row created.

SQL> select \* from customer1;

CUSTOMER\_ID CUST\_NAME CITY GRADE SALESMAN\_ID

----------- -------------------- -------------------- ---------- -----------

10 PREETHI BANGALORE 100 1000

11 VIVEK MANGALORE 300 1000

12 BHASKAR CHENNAI 400 2000

13 CHETHAN BANGALORE 200 2000

14 MAMATHA BANGALORE 400 3000

SQL> INSERT INTO Orders VALUES (50, 5000, '04-MAY-2017', 10, 1000);

1 row created.

SQL> INSERT INTO Orders VALUES (51, 450, '20-JAN-2017', 10, 2000);

1 row created.

SQL> INSERT INTO Orders VALUES (52, 1000, '24-FEB-2017', 13, 2000);

1 row created.

SQL> INSERT INTO Orders VALUES (53, 3500, '13-APR-2017', 14, 3000);

1 row created.

SQL> INSERT INTO Orders VALUES (54, 550, '09-MAR-2017', 12, 2000);

1 row created.

SQL> select \* from orders;

ORD\_NO PURCHASE\_AMT ORD\_DATE CUSTOMER\_ID SALESMAN\_ID

---------- ------------ --------- ----------- -----------

50 5000 04-MAY-17 10 1000

51 450 20-JAN-17 10 2000

52 1000 24-FEB-17 13 2000

53 3500 13-APR-17 14 3000

54 550 09-MAR-17 12 2000

SQL> SELECT Grade, COUNT (\*)

2 FROM Customer1

3 GROUP BY Grade

4 HAVING Grade >

5 (SELECT AVG(Grade)

6 FROM Customer1

7 WHERE City = 'BANGALORE');

GRADE COUNT(\*)

---------- ----------

400 2

300 1

SQL> SELECT Salesman\_id, Name

2 FROM Salesman S

3 WHERE 1 <

4 (SELECT COUNT(\*)

5 FROM Customer

6 WHERE Salesman\_id=S.Salesman\_id);

SALESMAN\_ID NAME

----------- --------------------

1000 JOHN

2000 RAVI

3000 KUMAR

4000 SMITH

5000 HARSHA

SQL> SELECT S.Salesman\_id, Name, Cust\_name, Commission

2 FROM Salesman S, Customer1 C

3 WHERE S.City = C.City

4 UNION

5 (SELECT Salesman\_id, Name, 'NO MATCH', Commission

6 FROM Salesman

7 WHERE NOT City = ANY

8 (SELECT City

9 FROM Customer1))

10 ORDER BY 2 DESC;

SALESMAN\_ID NAME CUST\_NAME COMMISSION

----------- -------------------- -------------------- --------------------

4000 SMITH NO MATCH 30%

2000 RAVI CHETHAN 20%

2000 RAVI MAMATHA 20%

2000 RAVI PREETHI 20%

3000 KUMAR NO MATCH 15%

1000 JOHN CHETHAN 25%

1000 JOHN MAMATHA 25%

1000 JOHN PREETHI 25%

5000 HARSHA NO MATCH 15%

9 rows selected.

SQL> CREATE VIEW bestsalesman

2 AS SELECT B.Ord\_date, S.Salesman\_id, S.Name

3 FROM Salesman S, Orders B

4 WHERE S.Salesman\_id = B.Salesman\_id

5 AND B. Purchase\_Amt=

6 (SELECT MAX (Purchase\_Amt)

7 FROM Orders O

8 WHERE O.Ord\_date = B.Ord\_date);

View created.

SQL> SELECT \* FROM bestsalesman;

ORD\_DATE SALESMAN\_ID NAME

--------- ----------- --------------------

04-MAY-17 1000 JOHN

20-JAN-17 2000 RAVI

24-FEB-17 2000 RAVI

13-APR-17 3000 KUMAR

09-MAR-17 2000 RAVI

SQL> DELETE FROM Salesman

2 WHERE Salesman\_id=1000;

1 row deleted.

SQL> select \* from salesman;

SALESMAN\_ID NAME CITY COMMISSION

----------- -------------------- -------------------- --------------------

2000 RAVI BANGALORE 20%

3000 KUMAR MYSORE 15%

4000 SMITH DELHI 30%

5000 HARSHA HYDRABAD 15%

SQL> select \* from customer1;

CUSTOMER\_ID CUST\_NAME CITY GRADE SALESMAN\_ID

----------- -------------------- -------------------- ---------- -----------

10 PREETHI BANGALORE 100

11 VIVEK MANGALORE 300

12 BHASKAR CHENNAI 400 2000

13 CHETHAN BANGALORE 200 2000

14 MAMATHA BANGALORE 400 3000

SQL> select \* from orders;

ORD\_NO PURCHASE\_AMT ORD\_DATE CUSTOMER\_ID SALESMAN\_ID

---------- ------------ --------- ----------- -----------

51 450 20-JAN-17 10 2000

52 1000 24-FEB-17 13 2000

53 3500 13-APR-17 14 3000

54 550 09-MAR-17 12 2000