EXPERIMENT – 4 : 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,Saleman_id)

Create tables and populate with appropriate values(Atleast 5 records in each table) for the given database.

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 names and customer names for whom order amount is more than 4000. (Use UNION operation.)

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

SCHEMA DIAGRAM

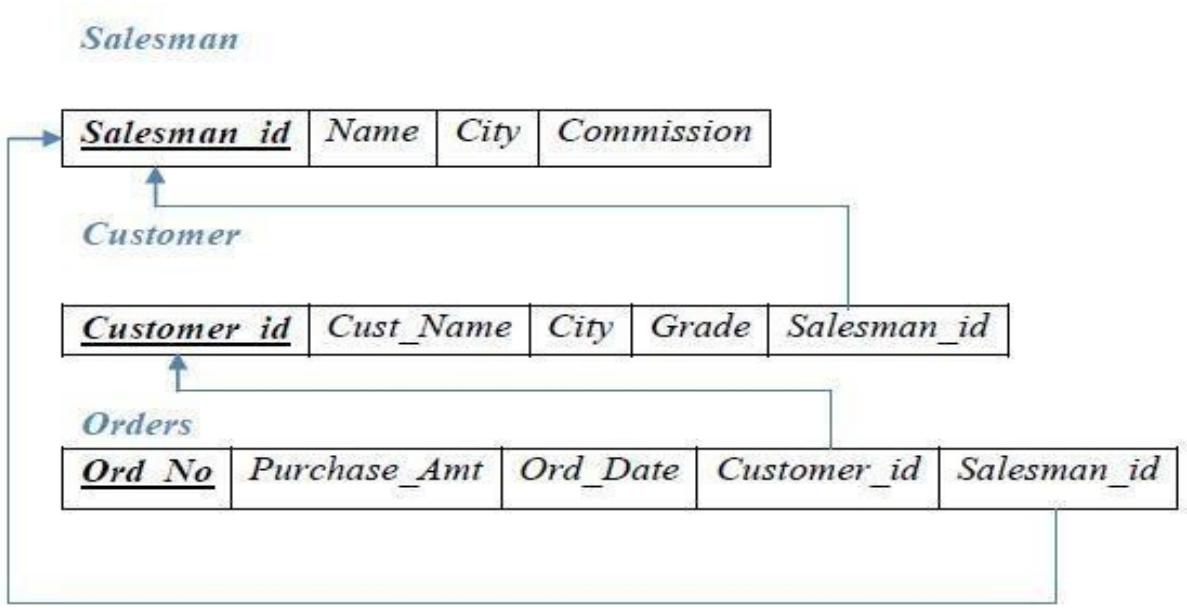

Table Creation:

```
CREATE TABLE SALESMAN(
SALESMAN_ID INT PRIMARY KEY,
NAME VARCHAR(10),
CITY VARCHAR (15), COMMISSION INT);

CREATE TABLE CUSTOMER (
CUSTOMER_ID INT PRIMARY KEY,
CUST_NAME VARCHAR (10),
CITY VARCHAR (10),
GRADE INT,
SALESMAN_ID     INT,
FOREIGN KEY(SALESMAN_ID) REFERENCES SALESMAN(SALESMAN_ID) ON DELETE
SET NULL);


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

Values for tables

SQL> INSERT INTO SALESMAN **VALUES**(&SALESMAN_ID,'&NAME','&CITY',&COMMISSION);

SQL> INSERT INTO CUSTOMER

VALUES(&CUSTOMER_ID,'&CUST_NAME','&CITY','&GRADE',&SALESMAN_ID);

SQL> INSERT INTO ORDERS

VALUES(&ORD_NO,&PURCHASE_AMT,'&ORD_DATE',&CUSTOMER_ID,&SALESMAN_ID);

SELECT*FROM SALESMAN;

SALESMAN_ID	NAME	CITY	COMMISSION
1000	RAJ	BENGALURU	50
2000	ASHWIN	TUMKUR	30
3000	BINDU	MUMBAI	40
4000	LAVANYA	BENGALURU	40
5000	ROHIT	MYSORE	60

SELECT*FROM CUSTOMER;

CUSTOMER_ID	CUST_NAME	CITY	GRADE	SALESMAN_ID
11	INFOSYS	BENGALURU	5	1000
22	TCS	BENGALURU	4	2000
33	WIPRO	MYSORE	7	1000
44	TCS	MYSORE	6	2000
55	ORACLE	TUMKUR	3	3000

SELECT*FROM ORDERS;

ORD_NO	PURCHASE_AMT	ORD_DATE	CUSTOMER_ID	SALESMAN_ID
1	200000	12-APR-16	11	1000
2	300000	12-APR-16	11	2000
3	400000	15-APR-17	22	1000

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

```
SELECT COUNT(CUSTOMER_ID)
FROMCUSTOMER

WHERE GRADE>(SELECT AVG(GRADE)

                FROM CUSTOMER

                WHERE CITY ='BENGALURU');
```

COUNT(CUSTOMER_ID)

3

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

```
SELECT S.NAME, COUNT(CUSTOMER_ID) FROMSALESMAN S, CUSTOMER C

WHERE S. SALESMAN_ID=C.SALESMAN_ID
GROUP BY S.NAME

HAVING COUNT(CUSTOMER_ID)>1;
```

NAME	COUNT(CUSTOMER_ID)
ASHWIN	2
RAJ	2

3. List all salesmen names and customer names for whom order amount is more than 4000.

```
SELECT S.NAME, C.NAME FROM SALESMAN S, CUSTOMER C, ORDER O
WHERE S. SALESMAN_ID=O.SALESMAN_ID
 AND
 C. CUSTOMER_ID=O.CUSTOMER_ID
AND

 O. PURCHASE_AMT>4000;
```

4. Demonstrate the DELETE operation by removing salesman withid1000. All his orders must also be deleted.

DELETE from salesman
WHERE salesman_id = 1000;
1 row deleted.

SELECT*FROMSALESMAN;

SALESMAN_ID	NAME	CITY	COMMISSION
2000	ASHWIN	TUMKUR	30
3000	BINDU	MUMBAI	40
4000	LAVANYA	BENGALURU	40
5000	ROHIT	MYSORE	60

SELECT*FROM CUSTOMER;

CUSTOMER_ID	CUST_NAME	CITY	GRADE	SALESMAN_ID
11	INFOSYS	BENGALURU	5	
22	TCS	BENGALURU	4	2000
33	WIPRO	MYSORE	7	
44	TCS	MYSORE	6	2000
55	ORACLE	TUMKUR	3	3000

SELECT*FROM ORDERS;

ORD_NO	PURCHASE_AMT	ORD_DATE	CUSTOMER_ID	SALESMAN_ID
2	300000	12-APR-16	11	2000

Learning Outcome of the Experiment

At the end of the session, students should be able to :

2. Design a Schema Diagram for a given application scenario[L4, CO 2, PO3]

4. Construct the database and Demonstrate the execution of Queries.[L5, CO 2, PO4]

Conclusions : The students learned the procedure to map the given scenario to get the final Relational Schema. The entire Database complete in all respects is then used to create the database in Oracle 10g, populate them and test some queries.