Rajalakshmi Engineering College

Rajalakshmi Nagar, Thandalam, Chennai - 602 105

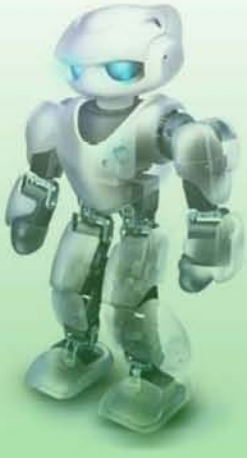
Department of Computer Science and Engineering

CS6312 - Database Management Systems Lab

Sample Programs

SQL Queries

(Regulation - 2013)



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CS6312 - DATABASE MANAGEMENT SYSTEMS LABORATORY

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Objectives:

The student should be made to:

- Learn to create and use a database
- Be familiarized with a query language
- Have hands on experience on DDL Commands
- Have a good understanding of DML Commands and DCL commands
- Familiarize advanced SQL queries.
- Be Exposed to different applications

LIST OF EXPERIMENTS:

1. Creation of a database and writing SQL queries to retrieve information from the database.
2. Performing Insertion, Deletion, Modifying, Altering, Updating and Viewing records based on conditions.
3. Creation of Views, Synonyms, Sequence, Indexes, Save point.
4. Creating an Employee database to set various constraints.
5. Creating relationship between the databases.
6. Study of PL/SQL block.
7. Write a PL/SQL block to satisfy some conditions by accepting input from the user.
8. Write a PL/SQL block that handles all types of exceptions.
9. Creation of Procedures.
10. Creation of database triggers and functions
11. Mini project (Application Development using Oracle/ Mysql)
    a. Inventory Control System.
    b. Material Requirement Processing.
    c. Hospital Management System.
    d. Railway Reservation System.
    e. Personal Information System.
    f. Web Based User Identification System.
    g. Timetable Management System.
    h. Hotel Management System

Total : 45 Periods

Outcomes:

At the end of the course, the student should be able to:

- Design and implement a database schema for a given problem-domain
- Populate and query a database
- Create and maintain tables using PL/SQL.
- Prepare reports.

Reference:

spoken-tutorial.org

Q-01

1. Create the following tables with the mapping given below.

a. stu_details (reg_no, stu_name, DOB, address, city)

```
SQL> create table stu_details(
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.

SQL> desc stu_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)
```

b. mark_details (reg_no, mark1, mark2, mark3, total)

```
SQL> create table mark_details(
     reg_no references stu_details, mark1 number(3),
     mark2 number(3), mark3 number(3), total number(3));

Table created.

SQL> desc mark_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

(i) Alter the table mark_details to add a column average with data type as long.

```
SQL> alter table mark_details add average long;

Table altered.
```

```
SQL> desc mark_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
 AVERAGE                                            LONG
```

(ii) Display the months between the DOB and till date.

```
SQL> insert into stu_details values(
     106, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.

SQL> select * from stu_details;

    REG_NO STU_NAME   DOB       ADDRESS               CITY
---------- ---------- --------- -------------------- --------
       106 BHUVAN     02-NOV-95 T Nagar              Chennai

SQL> select months_between(sysdate, dob) from stu_details;

MONTHS_BETWEEN(SYSDATE,DOB)
---------------------------
                 239.125824
                 243.738727
```

(iii) Using alter command drop the column address from the table stu_details.

```
SQL> alter table stu_details drop column address;

Table altered.

SQL> desc stu_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 CITY                                               VARCHAR2(10)
```

Q-02

2. Create the following tables with the mapping given below.

a. emp_details (emp_no, emp_name, DOB, address, doj, mobile_no, dept_no, salary).

b. dept_details (dept_no, dept_name, location).

```
SQL> create table dept_details(
     dept_no number(2) primary key, dept_name varchar(10),
     location varchar(10));

Table created.

SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
 LOCATION                                           VARCHAR2(10)

SQL> create table emp_details(
     emp_no varchar(5), emp_name varchar(10), dob date,
     address varchar(20), doj date, mobile_no varchar(10),
     dept_no references dept_details(dept_no), salary number(9,2));

Table created.

SQL> desc emp_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 EMP_NO                                             VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)

SQL> insert into dept_details values(
     1, 'CSE', 'Main Block');

1 row created.
```

```
SQL> select * from dept_details;

   DEPT_NO DEPT_NAME  LOCATION
---------- ---------- ----------
         1 CSE        Main Block
```

(i) Display the months between the doj and till date.

```
SQL> insert into emp_details values(
     'CS077', 'Bhuvan', '02-Nov-1987',
     'T Nagar, Chennai-17', '12-Jul-2013',
     '9791519152', 1, 50000);

1 row created.

SQL> select * from emp_details;

SQL> select months_between(sysdate, doj) from emp_details;

MONTHS_BETWEEN(SYSDATE,DOJ)
---------------------------
                 26.8008333
```

(ii) Alter the table emp_details to add a primary key constraint on emp_no.

```
SQL> alter table emp_details add primary key(emp_no);

Table altered.

SQL> desc emp_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(20)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)
```

Q-03

3. I. Create the following tables with the mapping given below.

a. emp_details (emp_no, emp_name, DOB, address, doj, mobile_no, dept_no, salary).
b. dept_details (dept_no, dept_name, location).

```
SQL> create table dept_details(
     dept_no number(2) primary key, dept_name varchar(10),
     location varchar(10));

Table created.

SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
 LOCATION                                           VARCHAR2(10)

SQL> create table emp_details(
     emp_no varchar(5), emp_name varchar(10), dob date,
     address varchar(20), doj date, mobile_no varchar(10),
     dept_no references dept_details(dept_no), salary number(9,2));

Table created.

SQL> desc emp_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 EMP_NO                                             VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)

SQL> insert into dept_details values(
     1, 'CSE', 'Main Block');

1 row created.

SQL> insert into dept_details values(
     3, 'IT', 'Main Block');

1 row created.
```

```
SQL> select * from dept_details;

   DEPT_NO DEPT_NAME  LOCATION
---------- ---------- ----------
         1 CSE        Main Block
         3 IT         Main Block
```

(i) Create a view emp1 from emp_details such that it contains only emp_no and emp_name.

```
SQL> create view emp1 as
     select emp_no, emp_name from emp_details;

View created.

SQL> desc emp1;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(20)

SQL> select * from emp1;

EMP_N EMP_NAME
----- --------------------
CS077 Bhuvan
```

(ii) Select dept_no from dept_details and not in emp_details using both the tables.

```
SQL> select dept_no from dept_details where
     dept_no not in (select distinct(dept_no) from emp_details);

   DEPT_NO
----------
         3
```

II. Create a table named as student and insert values into the table.

```
SQL> create table student (
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.
```

```
SQL> desc student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)

SQL> insert into student values(
     106, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.

SQL> insert into stu_ student values(
     107, 'MATHU', '14-Jun-1995', 'Anna Nagar', 'Chennai');

1 row created.

SQL> select * from student;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- --------
       106 BHUVAN     02-NOV-95 T Nagar              Chennai
       107 MATHU      14-JUN-95 Anna Nagar           Chennai
```

III. Create the following table with the mapping given below.

Book(book_name,author,price,quantity).

```
SQL> create table book
     (book_name varchar(20) primary key,
     author_name varchar(20),
     price number(6,2), quantity number(5));

Table created.

SQL> desc book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 BOOK_NAME                                 NOT NULL VARCHAR2(20)
 AUTHOR_NAME                                        VARCHAR2(20)
 PRICE                                              NUMBER(6,2)
 QUANTITY                                           NUMBER(5)
```

(iii) Write a query to update the quantity by double in the table book.

```
SQL> insert into book values(
     'Programming in C', 'Balagurusamy E',
     250, 100);

1 row created.

SQL> insert into book values(
     'Java 2', 'Herbert Schildt',
  3  500, 150);

1 row created.

SQL> insert into book values(
     'Big Data', 'Arun',
     600, 50);

1 row created.

SQL> select * from book;

BOOK_NAME            AUTHOR_NAME                PRICE   QUANTITY
-------------------- -------------------- ---------- ----------
Programming in C     Balagurusamy E              250        100
Java 2               Herbert Schildt             500        150
Big Data             Arun                        600         50

SQL> update book set quantity = quantity * 2;

3 rows updated.

SQL> select * from book;

BOOK_NAME            AUTHOR_NAME                PRICE   QUANTITY
-------------------- -------------------- ---------- ----------
Programming in C     Balagurusamy E              250        200
Java 2               Herbert Schildt             500        300
Big Data             Arun                        600        100
```

Q-04

4. Create the following tables with the mapping given below.

a. stu_details (reg_no, stu_name, DOB, address, city)

```
SQL> create table stu_details(
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.

SQL> desc stu_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)
```

b. mark_details (reg_no, mark1, mark2, mark3, total)

```
SQL> create table mark_details(
     reg_no references stu_details, mark1 number(3),
     mark2 number(3), mark3 number(3), total number(3));

Table created.

SQL> desc mark_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

(i). Display only those rows whose total ranges between 250 and 300.

```
SQL> insert into stu_details values(
     161, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.

SQL> insert into stu_details values(
     162, 'ARUN', '14-Jun-1995', 'Anna Nagar', 'Chennai');

1 row created.
```

```
SQL> select * from stu_details;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- --------
       161 BHUVAN     02-NOV-95 T Nagar              Chennai
       162 ARUN       14-JUN-95 Anna Nagar           Chennai

SQL> insert into mark_details values(
     161, 80, 80, 100, 260);

1 row created.

SQL> insert into mark_details values(
     162, 75, 75, 60, 210);

1 row created.

SQL> select * from mark_details;

    REG_NO      MARK1      MARK2      MARK3      TOTAL
---------- ---------- ---------- ---------- ----------
       161         80         80        100        260
       162         75         75         60        210

SQL> select * from mark_details where total between 250 and 300;

    REG_NO      MARK1      MARK2      MARK3      TOTAL
---------- ---------- ---------- ---------- ----------
       161         80         80        100        260
```

(ii). Drop the table mark_details.

```
SQL> drop table mark_details;

Table dropped.
```

(iii). Delete the row whose reg_no=161.

```
SQL> delete from stu_details where reg_no = 161;

1 row deleted.

SQL> select * from stu_details;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- ----------
       162 ARUN       14-JUN-95 Anna Nagar           Chennai
```

(iv). Display all details whose names begins with 'a'.

```
SQL> select * from stu_details where stu_name like 'A%';

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- ----------
       162 ARUN       14-JUN-95 Anna Nagar           Chennai
```

Q-05

5. Create the following tables with the mapping given below.

a. emp_details (emp_no, emp_name, DOB, address, doj, mobile_no, dept_no, salary).

b. dept_details (dept_no, dept_name, location).

```
SQL> create table dept_details(
     dept_no number(2) primary key, dept_name varchar(10),
     location varchar(10));

Table created.

SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
 LOCATION                                           VARCHAR2(10)

SQL> create table emp_details(
     emp_no varchar(5) primary key, emp_name varchar(10), dob date,
     address varchar(20), doj date, mobile_no varchar(10),
     dept_no references dept_details(dept_no), salary number(9,2));

Table created.

SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)
```

(i) Truncate the table dept_details.

```
SQL> truncate table dept_details;

Table truncated.
```

(ii) Display the structure of the table emp_details.

```
SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)
```

(iii) Convert the first letter of emp_name into capitals.

```
SQL> insert into dept_details values(
     1, 'CSE', 'Main Block');

1 row created.

SQL> select * from dept_details;

   DEPT_NO DEPT_NAME  LOCATION
---------- ---------- ----------
         1 CSE        Main Block

SQL> insert into emp_details values(
     'CS077', 'bhuvan', '02-Nov-1987',
     'T Nagar, Chennai-17', '12-Jul-2013',
     '9791519152', 1, 50000);

1 row created.

SQL> select emp_name from emp_details;

EMP_NAME
----------
bhuvan

SQL> update emp_details set emp_name = initcap(emp_name);

1 row updated.

SQL> select emp_name from emp_details;

EMP_NAME
----------
Bhuvan
```

(iv) Display the emp_name getting highest salary.

```
SQL> select emp_name from emp_details where salary =
     (select max(salary) from emp_details);

EMP_NAME
----------
Bhuvan
```

6. Create the following tables with the mapping given below.

a. book (book_name,author,price,quantity).

```
SQL> create table book
     (book_name varchar(20) primary key,
     author_name varchar(20),
     price number(6,2), quantity number(5));

Table created.

SQL> desc book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 BOOK_NAME                                 NOT NULL VARCHAR2(20)
 AUTHOR_NAME                                        VARCHAR2(20)
 PRICE                                              NUMBER(6,2)
 QUANTITY                                           NUMBER(5)
```

b. customer (Cust_id, Cust_name, Addr, ph_no,pan_no)

```
SQL> create table customer(
     cust_id number(3) primary key,
     cust_name varchar(10), addr varchar(20),
     ph_no varchar(10), pan_no varchar(10));

Table created.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 CUST_ID                                   NOT NULL NUMBER(3)
 CUST_NAME                                          VARCHAR2(10)
 ADDR                                               VARCHAR2(20)
 PH_NO                                              VARCHAR2(10)
 PAN_NO                                             VARCHAR2(10)
```

(i) Truncate the table customer.

```
SQL> insert into customer values(
     1, 'NANCY', 'T Nagar, Chennai', '9791519152',
     'ABCXY1234Z');

1 row created.
```

```
SQL> insert into customer values(
     2, 'MATHIK', 'Anna Nagar, Chennai', '9894860920',
     'MNOPQ5678R');

1 row created.

SQL> insert into customer values(
     3, 'LITHUANA', 'J J Nagar, Chennai', '9994940914',
     'RECIT3456A');

1 row created.

SQL> select * from customer;

   CUST_ID CUST_NAME  ADDR                 PH_NO      PAN_NO
---------- ---------- -------------------- ---------- ----------
         1 NANCY      T Nagar, Chennai     9791519152 ABCXY1234Z
         2 MATHIK     Anna Nagar, Chennai  9894860920 MNOPQ5678R
         3 LITHUANA   J J Nagar, Chennai   9994940914 RECIT3456A

SQL> truncate table customer;

Table truncated.

SQL> select * from customer;

no rows selected
```

(ii) List the author of the book which one have the price of 200.

```
SQL> insert into book values(
     'Programming in C', 'Balagurusamy E',
     200, 100);

1 row created.

SQL> insert into book values(
     'Java 2', 'Herbert Schildt',
     500, 150);

1 row created.

SQL> insert into book values(
     'Big Data', 'Kamaraj',
     300, 50);

1 row created.
```

```
SQL> select * from book;

BOOK_NAME            AUTHOR_NAME                PRICE   QUANTITY
-------------------- -------------------- ---------- ----------
Programming in C     Balagurusamy E              200        100
Java 2               Herbert Schildt             500        150
Big Data             Kamaraj                     300         50

SQL> select author_name from book where price = 200;

AUTHOR_NAME
--------------------
Balagurusamy E
```

(iii).List the price of the book which one is between the price of 175 & 250.

```
SQL> select price from book where price between 175 and 250;

     PRICE
----------
       200
```

(iv).Retrieve all the details from the table book whose author name start with K.

```
SQL> select * from book where author_name like 'K%';

BOOK_NAME            AUTHOR_NAME                PRICE   QUANTITY
-------------------- -------------------- ---------- ----------
Big Data             Kamaraj                     300         50
```

7. Create the following tables with the mapping given below.

a. stu_details (reg_no, stu_name, DOB, address, city)

```
SQL> create table stu_details(
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.

SQL> desc stu_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)
```

b. mark_details (reg_no, mark1, mark2, mark3, total)

```
SQL> create table mark_details(
     reg_no references stu_details, mark1 number(3),
     mark2 number(3), mark3 number(3), total number(3));

Table created.

SQL> desc mark_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

(i) Find out the name of all students.

```
SQL> insert into stu_details values(
     106, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.

SQL> insert into stu_details values(
     107, 'MATHU', '14-Jun-1995', 'Anna Nagar', 'Chennai');

1 row created.
```

```
SQL> select * from stu_details;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- --------
       106 BHUVAN     02-NOV-95 T Nagar              Chennai
       107 MATHU      14-JUN-95 Anna Nagar           Chennai

SQL> select stu_name from stu_details;

STU_NAME
----------
BHUVAN
MATHU
```

(ii)List all the student detail that who are all located in Chennai.

```
SQL> select * from stu_details where city = 'Chennai';

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- -------
       106 BHUVAN     02-NOV-95 T Nagar              Chennai
       107 MATHU      14-JUN-95 Anna Nagar           Chennai
```

(iii) Drop the table mark_details.

```
SQL> drop table mark_details;

Table dropped.
```

Q-08

Create the following tables with the mapping given below.

a. Customer (Cust_id, Cust_name, Addr, ph_no,pan_no)

```
SQL> create table customer(
     cust_id number(3) primary key,
     cust_name varchar(10), addr varchar(20),
     ph_no varchar(10), pan_no varchar(10));

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 CUST_ID                                   NOT NULL NUMBER(3)
 CUST_NAME                                          VARCHAR2(10)
 ADDR                                               VARCHAR2(20)
 PH_NO                                              VARCHAR2(10)
 PAN_NO                                             VARCHAR2(10)
```

b. Loan (Loan_id, Amount, Interest, Cust_id)

```
SQL> create table loan(
     loan_id number(3) primary key,
     amount number(9,2), interest number(4,2),
     cust_id references customer(cust_id));

SQL> desc loan;
 Name                                      Null?    Type
 ----------------------------------------- -------- -----------

 LOAN_ID                                   NOT NULL NUMBER(3)
 AMOUNT                                             NUMBER(9,2)
 INTEREST                                           NUMBER(4,2)
 CUST_ID                                            NUMBER(3)
```

(i)Display the Cust_name having both Loan and Account.

```
SQL> insert into customer values(
     1, 'NANCY', 'T Nagar, Chennai', '9791519152',
     'ABCXY1234Z');

1 row created.

SQL> insert into customer values(
     2, 'MATHIK', 'Anna Nagar, Chennai', '9894860920',
     'MNOPQ5678R');

1 row created.
```

```
SQL> insert into customer values(
     3, 'LEENA', 'J J Nagar, Chennai', '9994940914',
     'RECIT3456A');

1 row created.

SQL> select * from customer;

   CUST_ID CUST_NAME  ADDR                 PH_NO      PAN_NO
---------- ---------- -------------------- ---------- ----------
         1 NANCY      T Nagar, Chennai     9791519152 ABCXY1234Z
         2 MATHIK     Anna Nagar, Chennai  9894860920 MNOPQ5678R
         3 LEENA      J J Nagar, Chennai   9994940914 RECIT3456A
```

(ii) Display number of Loans, the sum of Loan Amount of a Particular Custname("LEENA")

(iii)Display the Custname doesn't hold any Account nor taken any Loan

(iv)Add a column nol(number of loans)

Q-09

9. Create the following tables with the mapping given below.

a. emp_details (emp_no, emp_name, DOB, address, doj, mobile_no, dept_no, salary).

b. dept_details (dept_no, dept_name, location).

```
SQL> create table dept_details(
     dept_no number(2) primary key, dept_name varchar(10),
     location varchar(10));

Table created.

SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
 LOCATION                                           VARCHAR2(10)

SQL> create table emp_details(
     emp_no varchar(5) primary key, emp_name varchar(10), dob date,
     address varchar(20), doj date, mobile_no varchar(10),
     dept_no references dept_details(dept_no), salary number(9,2));

Table created.

SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)
```

(i)Select dept_no from dept_details and not in emp_details using both the tables.

```
SQL> insert into dept_details values(
     1, 'CSE', 'Main Block');

1 row created.
```

```
SQL> insert into dept_details values(
     3, 'IT', 'Main Block');

SQL> select * from dept_details;

   DEPT_NO DEPT_NAME  LOCATION
---------- ---------- ----------
         1 CSE        Main Block
         3 IT         Main Block

SQL> insert into emp_details values(
     'CS077', 'bhuvan', '02-Nov-1987',
     'T Nagar, Chennai-17', '12-Jul-2013',
     '9791519152', 1, 50000);

1 row created.

SQL> select * from emp_details;

SQL> select dept_no from dept_details where
     dept_no not in (select distinct(dept_no) from emp_details);

   DEPT_NO
----------
         3
```

(ii) Create a table named as student and insert values into the table.

```
SQL> create table student (
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.

SQL> desc student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)

SQL> insert into student values(
     106, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.
```

```
SQL> insert into stu_ student values(
     107, 'MATHU', '14-Jun-1995', 'Anna Nagar', 'Chennai');

1 row created.

SQL> select * from student;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- --------
       106 BHUVAN     02-NOV-95 T Nagar              Chennai
       107 MATHU      14-JUN-95 Anna Nagar           Chennai
```

Q-10

10. Create the following tables with the mapping given below.

Phone_book(ph_no,name,door_no,street,place).

```
SQL> create table phone_book(
  2  ph_no varchar(10), name varchar(20), door_no varchar(10),
  3  street varchar(20), place varchar(10));

Table created.

SQL> desc phone_book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 PH_NO                                               VARCHAR2(10)
 NAME                                                VARCHAR2(20)
 DOOR_NO                                             VARCHAR2(10)
 STREET                                              VARCHAR2(20)
 PLACE                                               VARCHAR2(10)
```

(i)Display all names along with ph_no.

```
SQL> insert into phone_book values
  2  ('9894860920', 'Kamatchi', '179', 'Krishnan Street',
  3  'Kanchi');

1 row created.

SQL> insert into phone_book values
  2  ('9791519152', 'Bhuvan', '26-B/4', 'S.P. Koil Street',
  3  'Kanchi');

1 row created.

PH_NO      NAME                 DOOR_NO    STREET               PLACE
---------- -------------------- ---------- -------------------- --------
9894860920 Kamatchi             179        Krishnan Street      Kanchi
9791519152 Bhuvan               26-B/4     S.P. Koil Street     Kanchi

SQL> select name, ph_no from phone_book;

NAME                 PH_NO
-------------------- ----------
Kamatchi             9894860920
Bhuvan               9791519152
```

(ii)Add a column pin_no.

```
SQL> alter table phone_book add pin_no varchar(10);

Table altered.

SQL> desc phone_book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 PH_NO                                              VARCHAR2(10)
 NAME                                               VARCHAR2(20)
 DOOR_NO                                            VARCHAR2(10)
 STREET                                             VARCHAR2(20)
 PLACE                                              VARCHAR2(10)
 PIN_NO                                             VARCHAR2(10)
```

Q-11

11. Create the following tables with the mapping given below.

emp_details (emp_no, emp_name, DOB, address, doj, mobile_no, salary).

```
SQL> create table emp_details(
     emp_no varchar(5) primary key, emp_name varchar(10), dob date,
     address varchar(20), doj date, mobile_no varchar(10),
     salary number(9,2));

Table created.

SQL> desc emp_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 SALARY                                             NUMBER(9,2)
```

(i)Add a column dept_no(department number).

```
SQL> alter table emp_details add dept_no number(2);

Table altered.

SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 SALARY                                             NUMBER(9,2)
 DEPT_NO                                            NUMBER(2)
```

(ii)Drop the column salary by altering the table.

```
SQL> alter table emp_details drop column salary;

Table altered.
```

```
SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
```

(iii)Rename the table as'Employee'.

```
SQL> alter table emp_details rename to employee;

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
```

12. Create the following table with the mapping given below.

Customer (Cust_id, Cust_name, Addr, ph_no,pan_no).

```
SQL> create table customer(
     cust_id number(3) primary key,
     cust_name varchar(10), addr varchar(20),
     ph_no varchar(10), pan_no varchar(10));

Table created.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 CUST_ID                                   NOT NULL NUMBER(3)
 CUST_NAME                                          VARCHAR2(10)
 ADDR                                               VARCHAR2(20)
 PH_NO                                              VARCHAR2(10)
 PAN_NO                                             VARCHAR2(10)
```

(i)Delete the row where cust_name='NANCY'.

```
SQL> insert into customer values(
     1, 'NANCY', 'T Nagar, Chennai', '9791519152',
     'ABCXY1234Z');

1 row created.

SQL> insert into customer values(
     2, 'MATHIK', 'Anna Nagar, Chennai', '9894860920',
     'MNOPQ5678R');

1 row created.

SQL> insert into customer values(
     3, 'LITHUANA', 'J J Nagar, Chennai', '9994940914',
     'RECIT3456A');

1 row created.

SQL> select * from customer;

   CUST_ID CUST_NAME  ADDR                 PH_NO      PAN_NO
---------- ---------- -------------------- ---------- ----------
         1 NANCY      T Nagar, Chennai     9791519152 ABCXY1234Z
         2 MATHIK     Anna Nagar, Chennai  9894860920 MNOPQ5678R
         3 LITHUANA   J J Nagar, Chennai   9994940914 RECIT3456A
```

```
SQL> delete from customer where cust_name = 'NANCY';

1 row deleted.

SQL> select * from customer;

   CUST_ID CUST_NAME  ADDR                 PH_NO      PAN_NO
---------- ---------- -------------------- ---------- ----------
         2 MATHIK     Anna Nagar, Chennai  9894860920 MNOPQ5678R
         3 LITHUANA   J J Nagar, Chennai   9994940914 RECIT3456A
```

(ii)Update the addr where cust_name='MATHIK'.

```
SQL> update customer set addr = 'K K Nagar, Chennai'
     where cust_name = 'MATHIK';

1 row updated.

SQL> select * from customer;

   CUST_ID CUST_NAME  ADDR                 PH_NO      PAN_NO
---------- ---------- -------------------- ---------- ----------
         2 MATHIK     K K Nagar, Chennai   9894860920 MNOPQ5678R
         3 LITHUANA   J J Nagar, Chennai   9994940914 RECIT3456A
```

(iii)Display the details of a customer named 'LITHUANA'.

```
SQL> select * from customer where cust_name = 'LITHUANA';

   CUST_ID CUST_NAME  ADDR                 PH_NO      PAN_NO
---------- ---------- -------------------- ---------- ----------
         3 LITHUANA   J J Nagar, Chennai   9994940914 RECIT3456A
```

13. Create the following table with the mapping given below.

book(book_name,author_name,price,quantity).

```
SQL> create table book
     (book_name varchar(20) primary key,
     author_name varchar(20),
     price number(6,2), quantity number(5));

Table created.

SQL> desc book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 BOOK_NAME                                 NOT NULL VARCHAR2(20)
 AUTHOR_NAME                                        VARCHAR2(20)
 PRICE                                              NUMBER(6,2)
 QUANTITY                                           NUMBER(5)
```

(i) write a query to update the quantity by double in the table book.

```
SQL> insert into book values(
     'Programming in C', 'Balagurusamy E',
     250, 100);

1 row created.

SQL> insert into book values(
     'Java 2', 'Herbert Schildt',
     500, 150);

1 row created.

SQL> insert into book values(
     'Big Data', 'Arun',
     600, 50);

1 row created.

SQL> select * from book;

BOOK_NAME            AUTHOR_NAME               PRICE   QUANTITY
-------------------- -------------------- ---------- ----------
Programming in C     Balagurusamy E               250        100
Java 2               Herbert Schildt              500        150
Big Data             Arun                         600         50
```

```
SQL> update book set quantity = quantity * 2;

3 rows updated.

SQL> select * from book;

BOOK_NAME            AUTHOR_NAME                PRICE   QUANTITY
-------------------- -------------------- ---------- ----------
Programming in C     Balagurusamy E              250        200
Java 2               Herbert Schildt             500        300
Big Data             Arun                        600        100
```

(ii)List all the book_name whose price is greater than Rs.400.

```
SQL> select book_name from book where price > 400;

BOOK_NAME
--------------------
Java 2
Big Data
```

(iii)Retrieve the list of author_name whose first letter is 'a' along with the book_name and price.

```
SQL> select author_name, book_name, price from book
     where author_name like 'A%';

AUTHOR_NAME          BOOK_NAME                PRICE
-------------------- -------------------- ----------
Arun                 Big Data                   600
```

Q-14

14. Create the following table with the mapping given below.

a. stu_details (reg_no, stu_name, DOB, address, city)

```
SQL> create table stu_details(
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.

SQL> desc stu_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)
```

b. mark_details (reg_no, mark1, mark2, mark3, total)

```
SQL> create table mark_details(
     reg_no references stu_details, mark1 number(3),
     mark2 number(3), mark3 number(3), total number(3));

Table created.

SQL> desc mark_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

(i) Find the name of the student whose reg_no is'107'.

```
SQL> insert into stu_details values(
     106, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.

SQL> insert into stu_details values(
     107, 'MATHU', '14-Jun-1995', 'Anna Nagar', 'Chennai');

1 row created.
```

```
SQL> select * from stu_details;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- --------
       106 BHUVAN     02-NOV-95 T Nagar              Chennai
       107 MATHU      14-JUN-95 Anna Nagar           Chennai

SQL> select * from stu_details where reg_no = 107;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- -------
       107 MATHU      14-JUN-95 Anna Nagar           Chennai
```

(ii)Display the details of a particular student whose name is 'MATHU'.

```
SQL> select * from stu_details where stu_name = 'MATHU';

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- -------
       107 MATHU      14-JUN-95 Anna Nagar           Chennai
```

(iii)Rename the table mark_details as 'academics'.

```
SQL> alter table mark_details rename to academics;

Table altered.

SQL> desc academics;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

15. Create the following tables with the mapping given below.

a. assessment(reg_no,name, mark1, mark2, mark3, total)

```
SQL> create table assessment(
     reg_no number(3) primary key, mark1 number(3),
     mark2 number(3), mark3 number(3), total number(3));

SQL> desc assessment;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                    NOT NULL NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

b.dept_details (dept_no, dept_name, location).

```
SQL> create table dept_details(
     dept_no number(2) primary key, dept_name varchar(10),
     location varchar(10));


SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
 LOCATION                                           VARCHAR2(10)
```

(i) Using alter command drop the column location from the table dept_details.

```
SQL> alter table dept_details drop column location;

Table altered.

SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
```

(ii) Display all dept_name along withdept_no.

```
SQL> insert into dept_details values(
     1, 'CSE');

1 row created.

SQL> insert into dept_details values(
     2, 'ECE');

1 row created.

SQL> insert into dept_details values(
     3, 'IT');

1 row created.

SQL> select dept_name, dept_no from dept_details;

DEPT_NAME     DEPT_NO
---------- ----------
CSE                 1
ECE                 2
IT                  3
```

(iii)Drop the table dept_details.

```
SQL> drop table dept_details;

Table dropped.
```

Q-16

16. Create the following tables with the mapping given below.

a. emp_details (emp_no, emp_name, DOB, address, doj, mobile_no, dept_no, salary).

b. dept_details (dept_no, dept_name, location).

```
SQL> create table dept_details(
     dept_no number(2) primary key, dept_name varchar(10),
     location varchar(10));

Table created.

SQL> desc dept_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------------

 DEPT_NO                                   NOT NULL NUMBER(2)
 DEPT_NAME                                          VARCHAR2(10)
 LOCATION                                           VARCHAR2(10)

SQL> create table emp_details(
     emp_no varchar(5) primary key, emp_name varchar(10), dob date,
     address varchar(20), doj date, mobile_no varchar(10),
     dept_no references dept_details(dept_no), salary number(9,2));

Table created.

SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)
```

(i) Select dept_no from dept_details and not in emp_details using both the tables.

```
SQL> insert into dept_details values(
     1, 'CSE', 'Main Block');

1 row created.
```

```
SQL> insert into dept_details values(
     3, 'IT', 'Main Block');

SQL> select * from dept_details;

   DEPT_NO DEPT_NAME  LOCATION
---------- ---------- ----------
         1 CSE        Main Block
         3 IT         Main Block

SQL> insert into emp_details values(
     'CS077', 'bhuvan', '02-Nov-1987',
     'T Nagar, Chennai-17', '12-Jul-2013',
     '9791519152', 1, 50000);

1 row created.

SQL> select * from emp_details;

SQL> select dept_no from dept_details where
     dept_no not in (select distinct(dept_no) from emp_details);

   DEPT_NO
----------
         3
```

(ii)Display the structure of the table emp_details.

```
SQL> desc emp_details
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 EMP_NO                                    NOT NULL VARCHAR2(5)
 EMP_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 DOJ                                                DATE
 MOBILE_NO                                          VARCHAR2(10)
 DEPT_NO                                            NUMBER(2)
 SALARY                                             NUMBER(9,2)
```

(iii)Display the emp_name getting highest salary

```
SQL> select emp_name from emp_details where salary =
     (select max(salary) from emp_details);

EMP_NAME
----------
Bhuvan
```

17. Create the following tables with the mapping given below.

Phone_book(ph_no,name,door_no,street,place).

```
SQL> create table phone_book(
  2  ph_no varchar(10), name varchar(20), door_no varchar(10),
  3  street varchar(20), place varchar(10));

Table created.

SQL> desc phone_book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 PH_NO                                               VARCHAR2(10)
 NAME                                                VARCHAR2(20)
 DOOR_NO                                             VARCHAR2(10)
 STREET                                              VARCHAR2(20)
 PLACE                                               VARCHAR2(10)
```

(i)Display all names along with ph_no.

```
SQL> insert into phone_book values
  2  ('9894860920', 'Kamatchi', '179', 'Krishnan Street',
  3  'Kanchi');

1 row created.

SQL> insert into phone_book values
  2  ('9791519152', 'Bhuvan', '26-B/4', 'S.P. Koil Street',
  3  'Kanchi');

1 row created.

PH_NO      NAME                 DOOR_NO    STREET               PLACE
---------- -------------------- ---------- -------------------- --------
9894860920 Kamatchi             179        Krishnan Street      Kanchi
9791519152 Bhuvan               26-B/4     S.P. Koil Street     Kanchi

SQL> select name, ph_no from phone_book;

NAME                 PH_NO
-------------------- ----------
Kamatchi             9894860920
Bhuvan               9791519152
```

(ii)Add a column pin_no.

```
SQL> alter table phone_book add pin_no varchar(10);

Table altered.

SQL> desc phone_book;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 PH_NO                                              VARCHAR2(10)
 NAME                                               VARCHAR2(20)
 DOOR_NO                                            VARCHAR2(10)
 STREET                                             VARCHAR2(20)
 PLACE                                              VARCHAR2(10)
 PIN_NO                                             VARCHAR2(10)
```

Q-18

18. Create the following table with the mapping given below.

retailor(Cust_id, Cust_name, place, ph_no,pan_no).

```
SQL> create table retailor(
     cust_id number(3) primary key,
     cust_name varchar(10), place varchar(20),
     ph_no varchar(10), pan_no varchar(10));

Table created.

SQL> desc retailor;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 CUST_ID                                   NOT NULL NUMBER(3)
 CUST_NAME                                          VARCHAR2(10)
 PLACE                                              VARCHAR2(20)
 PH_NO                                              VARCHAR2(10)
 PAN_NO                                             VARCHAR2(10)
```

(i) Alter the table to add a column pin_no.

```
SQL> alter table retailor add pin_no varchar(10);

Table altered.

SQL> desc retailor;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 CUST_ID                                   NOT NULL NUMBER(3)
 CUST_NAME                                          VARCHAR2(10)
 PLACE                                              VARCHAR2(20)
 PH_NO                                              VARCHAR2(10)
 PAN_NO                                             VARCHAR2(10)
 PIN_NO                                             VARCHAR2(10)
```

(ii) Display the details of customer who are all living in bangalore.

```
SQL> insert into retailor values(
     1, 'NANCY', 'Chennai', '9791519152',
     'ABCXY1234Z', 'TN21AB5090');

1 row created.
```

```
SQL> insert into retailor values(
     2, 'MATHIK', 'Chennai', '9894860920',
     'MNOPQ5678R', 'TN21AC7769');

1 row created.

SQL>      insert into retailor values(
     3, 'LITHUANA', 'Bangalore', '9994940914',
     'RECIT3456A', 'TN21AD1234');

1 row created.


SQL> select * from retailor;

   CUST_ID CUST_NAME  PLACE                PH_NO      PAN_NO     PIN_NO
---------- ---------- --------------- ---------- ---------- ----------
         1 NANCY      Chennai          9791519152 ABCXY1234Z TN21AB5090
         2 MATHIK     Chennai          9894860920 MNOPQ5678R TN21AC7769
         3 LITHUANA   Bangalore        9994940914 RECIT3456A TN21AD1234

SQL> select * from retailor where place = 'Bangalore';

   CUST_ID CUST_NAME  PLACE                PH_NO      PAN_NO     PIN_NO
---------- ---------- --------------- ---------- ---------- ----------
         3 LITHUANA   Bangalore        9994940914 RECIT3456A TN21AD1234
```

(iii) Display the customer name whose first letter is 'M'.

```
SQL> select cust_name from retailor where cust_name like 'M%';

CUST_NAME
----------
MATHIK
```

Q-19

19. Create the following table with the mapping given below.

a. Product_master(product_name, purchase_prize, sell_prize, profit, quantity, balance)

```
SQL> create table product_master(
     product_name varchar(10) primary key,
     purchase_price number(9,2), sell_price number(9,2),
     profit number(9,2), quantity number(5), balance number(5));

Table created.

SQL> desc product_master;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 PRODUCT_NAME                              NOT NULL VARCHAR2(10)
 PURCHASE_PRICE                                     NUMBER(9,2)
 SELL_PRICE                                         NUMBER(9,2)
 PROFIT                                             NUMBER(9,2)
 QUANTITY                                           NUMBER(5)
 BALANCE                                            NUMBER(5)
```

b. Customer (Cust_id, Cust_name, Addr, ph_no,pan_no).

```
SQL> create table customer(
     cust_id number(3) primary key,
     cust_name varchar(10), addr varchar(20),
     ph_no varchar(10), pan_no varchar(10));

Table created.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 CUST_ID                                   NOT NULL NUMBER(3)
 CUST_NAME                                          VARCHAR2(10)
 ADDR                                               VARCHAR2(20)
 PH_NO                                              VARCHAR2(10)
 PAN_NO                                             VARCHAR2(10)
```

(i) Display all the customer names along with their address.

```
SQL> insert into customer values(
     1, 'NANCY', 'T Nagar, Chennai', '9791519152',
     'ABCXY1234Z');

1 row created.
```

```
SQL> insert into customer values(
     2, 'MATHIK', 'Anna Nagar, Chennai', '9894860920',
     'MNOPQ5678R');

1 row created.

SQL> insert into customer values(
     3, 'LITHUANA', 'J J Nagar, Chennai', '9994940914',
     'RECIT3456A');

1 row created.

SQL> select cust_name, addr from customer;

CUST_NAME  ADDR
---------- --------------------
NANCY      T Nagar, Chennai
MATHIK     Anna Nagar, Chennai
LITHUANA   J J Nagar, Chennai
```

(ii) Drop the table customer.

```
SQL> drop table customer;

Table dropped.
```

(iii) Change thesell_price to 5000&purchase_price amount to 4000 for any one of the product in product_master.

```
SQL> insert into product_master values(
     '1 TB HDD', 3500, 4500, 1000, 100, 50);

1 row created.

SQL> insert into product_master values(
     'DVD Drive', 750, 1000, 250, 200, 100);

1 row created.

SQL> select * from product_master;

PRODUCT_NA PURCHASE_PRICE SELL_PRICE     PROFIT   QUANTITY    BALANCE
---------- -------------- ---------- ---------- ---------- ----------
1 TB HDD             3500       4500       1000        100         50
DVD Drive             750       1000        250        200        100
```

```
SQL> update product_master set sell_price = 5000, purchase_price = 4000
     where product_name = '1 TB HDD';

1 row updated.

SQL> select * from product_master;

PRODUCT_NA PURCHASE_PRICE SELL_PRICE     PROFIT   QUANTITY    BALANCE
---------- -------------- ---------- ---------- ---------- ----------
1 TB HDD             4000       5000       1000        100         50
DVD Drive             750       1000        250        200        100
```

20. Create the following table with the mapping given below.

a. stu_details (reg_no, stu_name, DOB, address, city)

```
SQL> create table stu_details(
     reg_no number(3) primary key, stu_name varchar(10),
     dob date, address varchar(20), city varchar(10));

Table created.

SQL> desc stu_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 REG_NO                                    NOT NULL NUMBER(3)
 STU_NAME                                           VARCHAR2(10)
 DOB                                                DATE
 ADDRESS                                            VARCHAR2(20)
 CITY                                               VARCHAR2(10)
```

b. mark_details (reg_no, mark1, mark2, mark3, total)

```
SQL> create table mark_details(
     reg_no references stu_details, mark1 number(3),
     mark2 number(3), mark3 number(3), total number(3));

Table created.

SQL> desc mark_details;
 Name                                      Null?    Type
 ----------------------------------------- -------- ---------

 REG_NO                                             NUMBER(3)
 MARK1                                              NUMBER(3)
 MARK2                                              NUMBER(3)
 MARK3                                              NUMBER(3)
 TOTAL                                              NUMBER(3)
```

(i)Find out the name of all students along with their total marks.

```
SQL> insert into stu_details values(
     161, 'BHUVAN', '02-Nov-1995', 'T Nagar', 'Chennai');

1 row created.

SQL> insert into stu_details values(
     162, 'ARUN', '14-Jun-1995', 'Anna Nagar', 'Chennai');

1 row created.
```

```
SQL> select * from stu_details;

    REG_NO STU_NAME   DOB       ADDRESS              CITY
---------- ---------- --------- -------------------- --------
       161 BHUVAN     02-NOV-95 T Nagar              Chennai
       162 ARUN       14-JUN-95 Anna Nagar           Chennai

SQL> insert into mark_details values(
     161, 80, 80, 100, 260);

1 row created.

SQL> insert into mark_details values(
     162, 59, 75, 76, 210);

1 row created.

SQL> select * from mark_details;

    REG_NO      MARK1      MARK2      MARK3      TOTAL
---------- ---------- ---------- ---------- ----------
       161         80         80        100        260
       162         59         75         76        210

SQL> select a.stu_name, b.total from
  2  stu_details a, mark_details b
  3  where a.reg_no = b.reg_no;

STU_NAME        TOTAL
---------- ----------
BHUVAN             260
ARUN               210
```

(ii)Change the mark1 as '78' from '59' and alter the total for a particular student.

```
SQL> update mark_details set mark1 = 78,
     where reg_no = 162;

1 row updated.

SQL> select * from mark_details;

    REG_NO      MARK1      MARK2      MARK3      TOTAL
---------- ---------- ---------- ---------- ----------
       161         80         80        100        260
       162         78         75         76        210
```

```
SQL> update mark_details set
     total = mark1 + mark2 + mark3 where reg_no = 162;

1 row updated.

SQL> select * from mark_details;

    REG_NO      MARK1      MARK2      MARK3      TOTAL
---------- ---------- ---------- ---------- ----------
       161         80         80        100        260
       162         78         75         76        229
```

(iii) Delete all the records and its memory space from the table student.

```
SQL> truncate table mark_details;

Table truncated.

SQL> select * from mark_details;

no rows selected
```

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