****

Exercise 1

Aim: Testing Basic DDL and DML commands.

****

1.Create Table Name Customer With Following Columns Cid Int, Cname Char (20), Dob Date, City Char (15), Income Number (12,2).

```
SQL> create table customer(
  2  cid int,
  3  cname char(20),
  4  dob date,
  5  city char(15),
  6  income number(12,2));

Table created.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
------
 CID                                                NUMBER(38)
 CNAME                                              CHAR(20)
 DOB                                                DATE
 CITY                                               CHAR(15)
 INCOME                                             NUMBER(12,2)
```

2.Alter the above table

i)Change The Datatype Of Cname From Char To Varchar And Size 20 To 25 Change The Size Of City From 15 To 20.

```
SQL> alter table customer modify(
  2  cname varchar(25),
  3  city char(20));

Table altered.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
----
 CID                                                NUMBER(38)
 CNAME                                              VARCHAR2(25)
 DOB                                                DATE
 CITY                                               CHAR(20)
 INCOME                                             NUMBER(12,2)
```

ii) Add New Columns Namely Phone No. Char (10) And Email Id With Varchar (25).

```
SQL> alter table customer add(
  2  phone_no char(10),
  3  email_id varchar(25));

Table altered.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
----
 CID                                                NUMBER(38)
 CNAME                                              VARCHAR2(25)
 DOB                                                DATE
 CITY                                               CHAR(20)
 INCOME                                             NUMBER(12,2)
 PHONE_NO                                           CHAR(10)
 EMAIL_ID                                           VARCHAR2(25)
```

iii) Make Cname And Dob To Accept Not Null Values.

```
SQL> alter table customer modify(
  2  cname not null,
  3  dob not null);

Table altered.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
----
 CID                                                NUMBER(38)
 CNAME                                     NOT NULL VARCHAR2(25)
 DOB                                       NOT NULL DATE
 CITY                                               CHAR(20)
 INCOME                                             NUMBER(12,2)
 PHONE_NO                                           CHAR(10)
 EMAIL_ID                                           VARCHAR2(25)
```

iv) Drop The Column Email Id.

```
SQL> alter table customer drop(email_id);

Table altered.

SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
----
 CID                                                NUMBER(38)
 CNAME                                     NOT NULL VARCHAR2(25)
 DOB                                       NOT NULL DATE
 CITY                                               CHAR(20)
 INCOME                                             NUMBER(12,2)
 PHONE_NO                                           CHAR(10)
```

3. Insert Min 10 Records.

```
SQL> insert into customer(cid,cname,dob,city,income,phone_no) values(101,'rhea','02-jan-1975','mangalore',100000,9723525024);
1 row created.
SQL> insert into customer(cid,cname,dob,city,income,phone_no) values(102,'neha','10-feb-1999','bangalore',150000,8722325023);
1 row created.
SQL> insert into customer(cid,cname,dob,city,income,phone_no) values(103,'asha','15-mar-1980','mumbai',200000,7723925028);
1 row created.
SQL> insert into customer(cid,cname,dob,city,income,phone_no) values(104,'nisha','20-apr-2000','kasargod',255000,8728725029);
1 row created.
```

```
SQL> select * from customer;

       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO
----------
       101 rhea                      02-JAN-75 mangalore               100000
9723525024

       102 neha                      10-FEB-99 bangalore               150000
8722325023

       103 asha                      15-MAR-80 mumbai                  200000
7723925028


       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO
----------
       104 nisha                     20-APR-00 kasargod                255000
8728725029

       106 nikhil                    30-JUN-45 agra                    300000
8722325897

       107 rahul                     17-JUL-07 mangalore               347000
9923525453
```

```
       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------ --------- -------------------- ----------
PHONE_NO
----------
       108 mithun                   13-AUG-10 bangalore               460000
7722465098

       109 sneha                    19-SEP-15 noida                   600000
8798525012

       110 ankit                    22-DEC-20 vadodra                 780000
6723525984


       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------ --------- -------------------- ----------
PHONE_NO
----------
       105 gokul                    04-MAY-04 surat                   298000
7915575099


10 rows selected.
```

4.Add Column Name Category And Fill Its Value Of Category With A.

```
SQL> alter table customer add(
  2  category varchar(1));

Table altered.
```

```
SQL> desc customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CID                                                NUMBER(38)
 CNAME                                     NOT NULL VARCHAR2(25)
 DOB                                       NOT NULL DATE
 CITY                                               CHAR(20)
 INCOME                                             NUMBER(12,2)
 PHONE_NO                                           CHAR(10)
 CATEGORY                                           VARCHAR2(1)
```

```
SQL> update customer set category='A';

10 rows updated.
```

```
SQL> select * from customer;

       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       101 rhea                      02-JAN-75 mangalore               100000
9723525024 A

       102 neha                      10-FEB-99 bangalore               150000
8722325023 A

       103 asha                      15-MAR-80 mumbai                  200000
7723925028 A


       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       104 nisha                     20-APR-00 kasargod                255000
8728725029 A

       106 nikhil                    30-JUN-45 agra                    300000
8722325897 A

       107 rahul                     17-JUL-07 mangalore               347000
9923525453 A
```

```
       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       108 mithun                    13-AUG-10 bangalore               460000
7722465098 A

       109 sneha                     19-SEP-15 noida                   600000
8798525012 A

       110 ankit                     22-DEC-20 vadodra                 780000
6723525984 A


       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       105 gokul                     04-MAY-04 surat                   298000
7915575099 A
```

5) 1) Change The Category Value Based On Following Condition a) If Income Is Less Than Or Equal To 2 Lakh Category Is C. SQL> UPDATE CUSTOMER SET CATEGORY='C' WHERE INCOME<=200000;

```
SQL> update customer set category='C' where income<=200000;

3 rows updated.
```

```
SQL> select * from customer;

       CID CNAME                     DOB       CITY                 INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       101 rhea                      02-JAN-75 mangalore               100000
9723525024 C

       102 neha                      10-FEB-99 bangalore               150000
8722325023 C

       103 asha                      15-MAR-80 mumbai                  200000
7723925028 C
```

b) If Income Is More Than 2 Lakh Or Less Than Or Equal To 5 Lakh Category B.

```
SQL> update customer set category='B' where income>200000 and income<=500000;

5 rows updated.
```

```
SQL> select * from customer;
```

```
       CID CNAME                     DOB       CITY                 INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       104 nisha                     20-APR-00 kasargod                255000
8728725029 B

       106 nikhil                    30-JUN-45 agra                    300000
8722325897 B

       107 rahul                     17-JUL-07 mangalore               347000
9923525453 B
```

```
       CID CNAME                     DOB       CITY                 INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       108 mithun                    13-AUG-10 bangalore               460000
7722465098 B
```

```
       CID CNAME                     DOB       CITY                 INCOME
---------- ------------------------- --------- -------------------- ----------
PHONE_NO   C
---------- -
       105 gokul                     04-MAY-04 surat                   298000
7915575099 B
```

c) If Income Is Above 5 Lakh Category Is A.

```
SQL> update customer set category='A' where income>500000;

2 rows updated.
```

```
SQL> select * from customer;
```

```
       CID CNAME                     DOB       CITY                    INCOME
---------- ------------------------ --------- -------------------- ----------
PHONE_NO   C
---------- -
       109 sneha                    19-SEP-15 noida                   600000
8798525012 A

       110 ankit                    22-DEC-20 vadodra                 780000
6723525984 A
```

d) If Income Is Above 5 Lakh And City Is Mangalore Than Category O.

```
SQL> update customer set category='O' where city='mangalore'and  income>500000;

1 row updated.
```

```
SQL> select * from customer;
```

```
       CID CNAME                     DOB       CITY                    INCOME PHONE_NO   C
---------- ------------------------ --------- -------------------- ---------- ---------- -

110 ankit                       22-DEC-20 mangalore               780000 6723525984 O
```

2) Delete Customer Who Belong To Bangalore.

```
SQL> delete from customer where city='bangalore';

2 rows deleted.
```

```
SQL> select * from customer;

       CID CNAME                     DOB       CITY                 INCOME PHONE_NO   C
---------- ------------------------- --------- -------------------- ---------- ---------- -
       101 rhea                      02-JAN-75 mangalore            100000 9723525024 C

       103 asha                      15-MAR-80 mumbai               200000 7723925028 C

       104 nisha                     20-APR-00 kasargod             255000 8728725029 B

       106 nikhil                    30-JUN-45 agra                 300000 8722325897 B

       107 rahul                     17-JUL-07 mangalore            347000 9923525453 B

       109 sneha                     19-SEP-15 noida                600000 8798525012 A

       110 ankit                     22-DEC-20 mangalore            780000 6723525984 O

       105 gokul                     04-MAY-04 surat                298000 7915575099 B


8 rows selected.
```

6) Rename Customer To Customer1

```
SQL> rename customer to customer1;

Table renamed.
```

```
SQL> select * from customer1;

       CID CNAME                     DOB       CITY                 INCOME PHONE_NO   C
---------- ------------------------- --------- -------------------- ---------- ---------- -
       101 rhea                      02-JAN-75 mangalore            100000 9723525024 C

       103 asha                      15-MAR-80 mumbai               200000 7723925028 C

       104 nisha                     20-APR-00 kasargod             255000 8728725029 B

       106 nikhil                    30-JUN-45 agra                 300000 8722325897 B

       107 rahul                     17-JUL-07 mangalore            347000 9923525453 B

       109 sneha                     19-SEP-15 noida                600000 8798525012 A

       110 ankit                     22-DEC-20 mangalore            780000 6723525984 O

       105 gokul                     04-MAY-04 surat                298000 7915575099 B


8 rows selected.
```

****

Exercise 2

Aim: Adding Constraints, Primary key and Foreign key

****

1.Create Employee Table With Eid Integer Primary Key, Doj Date, City Varchar(15),Dept Varchar(20),Bpay Number(10,2),Status Char(1).

```
SQL> create table employee(
  2  eid integer primary key,
  3  doj date,
  4  city varchar(15),
  5  dept varchar(20),
  6  bpay number(10,2),
  7  status char(1));

Table created.
```

```
SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EID                                       NOT NULL NUMBER(38)
 DOJ                                                DATE
 CITY                                               VARCHAR2(15)
 DEPT                                               VARCHAR2(20)
 BPAY                                               NUMBER(10,2)
 STATUS                                             CHAR(1)
```

2.Do The Following

A) Drop primary key.

```
SQL> alter table employee drop primary key;

Table altered.
```

B) Add primary key with constraint name

```
SQL> alter table employee add constraint pk_eid primary key(eid);

Table altered.
```

C)Make Doj To Accept Not Null Values.

```
SQL> alter table employee modify(
  2  doj not null);

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EID                                       NOT NULL NUMBER(38)
 DOJ                                       NOT NULL DATE
 CITY                                               VARCHAR2(15)
 DEPT                                               VARCHAR2(20)
 BPAY                                               NUMBER(10,2)
 STATUS                                             CHAR(1)
```

D)Make City To Accept Not Null Values & Default Value Mangalore.

```
SQL> alter table employee modify(
  2  city default 'mangalore' not null);

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EID                                       NOT NULL NUMBER(38)
 DOJ                                       NOT NULL DATE
 CITY                                      NOT NULL VARCHAR2(15)
 DEPT                                               VARCHAR2(20)
 BPAY                                               NUMBER(10,2)
 STATUS                                             CHAR(1)
```

E) Add Column Name Phone No. And Make It Is As Unique Key.

```
SQL> alter table employee add(
  2  phone_no char(10) unique);

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EID                                       NOT NULL NUMBER(38)
 DOJ                                       NOT NULL DATE
 CITY                                      NOT NULL VARCHAR2(15)
 DEPT                                               VARCHAR2(20)
 BPAY                                               NUMBER(10,2)
 STATUS                                             CHAR(1)
 PHONE_NO                                           CHAR(10)
```

F) Make Basic Pay To Accept Value Greater Than 10000.

```
SQL> alter table employee add constraint ck_bpay check(bpay>10000);

Table altered.
```

G) Make Status To Accept Only The Values Either T Or P.

```
SQL> alter table employee add (constraint ck_status check(status='T' or status='P'));

Table altered.
```

3)Insert minimum 10 records

```
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(101,'01-jan-2009','mangalore','sales',20000,'P',9901981823);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(102,'05-feb-2010','bangalore','IT',25000,'T',8906981818);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(103,'10-mar-2013','mangalore','IT',30000,'T',7701981621);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(104,'11-apr-2015','mumbai','sales',35000,'P',8791981843);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(105,'14-may-2011','surat','IT',40000,'T',8801923856);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(106,'16-jun-2017','agra','sales',50000,'P',8902681877);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(107,'19-jul-2019','kasargod','IT',90000,'T',6907881899);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(108,'20-aug-2020','surathkal','sales',84000,'P',8961941888);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(109,'23-nov-2024','bangalore','sales',37000,'T',9606781898);
1 row created.
SQL> insert into employee(eid,doj,city,dept,bpay,status,phone_no)values(110,'25-dec-2022','noida','IT',26000,'P',8805981673);
1 row created.
```

```
SQL> select * from employee;

       EID DOJ       CITY            DEPT                 BPAY S PHONE_NO
---------- --------- --------------- -------------------- ---------- - ----------
       101 01-JAN-09 mangalore       sales                 20000 P 9901981823
       102 05-FEB-10 bangalore       IT                    25000 T 8906981818
       103 10-MAR-13 mangalore       IT                    30000 T 7701981621
       104 11-APR-15 mumbai          sales                 35000 P 8791981843
       105 14-MAY-11 surat           IT                    40000 T 8801923856
       106 16-JUN-17 agra            sales                 50000 P 8902681877
       107 19-JUL-19 kasargod        IT                    90000 T 6907881899
       108 20-AUG-20 surathkal       sales                 84000 P 8961941888
       109 23-NOV-24 bangalore       sales                 37000 T 9606781898
       110 25-DEC-22 noida           IT                    26000 P 8805981673
```

4)Drop unique key.

```
SQL> alter table employee drop unique(phone_no);

Table altered.
```

5)Display All The Records In The Order Of Employee Dept.

```
SQL> select eid,doj,city,dept,bpay,status,phone_no from employee order by dept;

       EID DOJ       CITY            DEPT                       BPAY S PHONE_NO
---------- --------- --------------- -------------------- ---------- - ----------
       105 14-MAY-11 surat           IT                      40000 T 8801923856
       107 19-JUL-19 kasargod        IT                      90000 T 6907881899
       110 25-DEC-22 noida           IT                      26000 P 8805981673
       103 10-MAR-13 mangalore       IT                      30000 T 7701981621
       102 05-FEB-10 bangalore       IT                      25000 T 8906981818
       108 20-AUG-20 surathkal       sales                   84000 P 8961941888
       104 11-APR-15 mumbai          sales                   35000 P 8791981843
       109 23-NOV-24 bangalore       sales                   37000 T 9606781898
       106 16-JUN-17 agra            sales                   50000 P 8902681877
       101 01-JAN-09 mangalore       sales                   20000 P 9901981823

10 rows selected.
```

6)Increase Bpay Of Employee By 10% For The Employees Whose Status Is T.

```
SQL> update employee set bpay=bpay+(bpay*0.1)where status='T';

5 rows updated.

SQL> select * from employee;

       EID DOJ       CITY            DEPT                       BPAY S PHONE_NO
---------- --------- --------------- -------------------- ---------- - ----------
       101 01-JAN-09 mangalore       sales                   20000 P 9901981823
       102 05-FEB-10 bangalore       IT                      27500 T 8906981818
       103 10-MAR-13 mangalore       IT                      33000 T 7701981621
       104 11-APR-15 mumbai          sales                   35000 P 8791981843
       105 14-MAY-11 surat           IT                      44000 T 8801923856
       106 16-JUN-17 agra            sales                   50000 P 8902681877
       107 19-JUL-19 kasargod        IT                      99000 T 6907881899
       108 20-AUG-20 surathkal       sales                   84000 P 8961941888
       109 23-NOV-24 bangalore       sales                   40700 T 9606781898
       110 25-DEC-22 noida           IT                      26000 P 8805981673

10 rows selected.
```

****

Exercise 3

Aim: Adding Constraints

****

1)Create Table Emp2 With Following Columns Eid1 Integer, Eid Integer, Dob, Experience Integer, Ename Varchar(20).

```
SQL> create table emp2(
  2  eid1 integer,
  3  eid integer,
  4  dob date,
  5  experience integer,
  6  ename varchar(20));

Table created.

SQL>
SQL> desc emp2;
 Name                      Null?    Type
 ------------------------- -------- ------------
 EID1                               NUMBER(38)
 EID                                NUMBER(38)
 DOB                                DATE
 EXPERIENCE                         NUMBER(38)
 ENAME                              VARCHAR2(20)
```

2)Add the following constraints:

A) Add Primary Key With Constraint Name

```
SQL> alter table emp2 add constraint pk_eid1 primary key(eid1);

Table altered.
```

B) Add Foreign Key With Constraint Name

```
SQL> alter table emp2 add constraint fk_eid1 foreign key(eid)references employee;

Table altered.
```

C)Make Dob To Accept Value Greater Than 01-Jan-2005

```
SQL> alter table emp2 add constraint csk_dob check(dob<=TO_DATE('01-jan-2005','dd-mon-yyyy'));

Table altered.
```

D)Make Experience To Accept Value Greater Than 2

```
SQL> alter table emp2 add constraint ck_experience check(experience>2);

Table altered.
```

E) Make Ename To Accept Values Only In Capital Letters

```
SQL> alter table emp2 add constraint ck_ename check(ename=upper(ename));

Table altered.
```

3)Insert Few Records

```
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1001,101,'08-feb-1995',3,'WELSON');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1002,102,'05-JAN-1999',7,'SONY');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1003,103,'02-mar-2004',9,'SAROJ');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1004,104,'12-may-2002',13,'ROOPA');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1005,105,'16-apr-2003',15,'GARY');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1006,106,'20-jul-2001',6,'HAZEL');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1007,107,'28-sep-1970',25,'LEENA');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1008,108,'23-oct-1997',17,'RIYA');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1009,109,'18-dec-2004',5,'ROSHAN');
1 row created.
SQL> insert into emp2(eid1,eid,dob,experience,ename)values(1010,110,'14-nov-1999',8,'JOHN');
1 row created.
```

```
SQL> select * from emp2;

      EID1        EID DOB       EXPERIENCE ENAME
---------- ---------- --------- ---------- --------------------
      1001        101 08-FEB-95          3 WELSON
      1002        102 05-JAN-99          7 SONY
      1003        103 02-MAR-04          9 SAROJ
      1004        104 12-MAY-02         13 ROOPA
      1005        105 16-APR-03         15 GARY
      1006        106 20-JUL-01          6 HAZEL
      1007        107 28-SEP-70         25 LEENA
      1008        108 23-OCT-97         17 RIYA
      1009        109 18-DEC-04          5 ROSHAN
      1010        110 14-NOV-99          8 JOHN

10 rows selected.
```

4)Do The Following Queries:

A) Display Eid, Doj, City, Department, Basic Pay From Employee Table In The Desc Order Of Basic Pay SQL> SELECT EID, DOJ

```
SQL> select eid,doj,city,dept,bpay from employee order by bpay desc;

       EID DOJ       CITY            DEPT                      BPAY
---------- --------- --------------- -------------------- ----------
       107 19-JUL-19 kasargod        IT                        99000
       108 20-AUG-20 surathkal       sales                     84000
       106 16-JUN-17 agra            sales                     50000
       105 14-MAY-11 surat           IT                        44000
       109 23-NOV-24 bangalore       sales                     40700
       104 11-APR-15 mumbai          sales                     35000
       103 10-MAR-13 mangalore       IT                        33000
       102 05-FEB-10 bangalore       IT                        27500
       110 25-DEC-22 noida           IT                        26000
       101 01-JAN-09 mangalore       sales                     20000

10 rows selected.
```

B)Display Eid, Doj, City, Dept, Basic Pay From Employee Table Where Status='P' And Bpay Between 10000 And 20000.

```
SQL> select eid,doj,city,dept,bpay from employee where status='P' and bpay between 10000 and 20000;

       EID DOJ       CITY            DEPT                      BPAY
---------- --------- --------------- -------------------- ----------
       101 01-JAN-09 mangalore       sales                     20000
```

C) Display Eid, Doj, City, Dept, Basic Pay From Employee Table In The Descending Order Of Basic Pay Where City Not Mangalore And Bpay Greater Than 25000 Then Any 2 Dept.

```
SQL> select eid,doj,city,dept,bpay from employee where city!='mangalore' and bpay>25000 and dept in('IT','sales') order by bpay desc;

       EID DOJ       CITY            DEPT                      BPAY
---------- --------- --------------- -------------------- ----------
       107 19-JUL-19 kasargod        IT                        99000
       108 20-AUG-20 surathkal       sales                     84000
       106 16-JUN-17 agra            sales                     50000
       105 14-MAY-11 surat           IT                        44000
       109 23-NOV-24 bangalore       sales                     40700
       104 11-APR-15 mumbai          sales                     35000
       102 05-FEB-10 bangalore       IT                        27500
       110 25-DEC-22 noida           IT                        26000

8 rows selected.
```

D) Display Eid, Doj, City, Dept, Basic Pay From Employee Table In The Descending Order Of Basic Pay Any Three Cities And Not Any One Dept And Bpay Between 25000 And 50000 In Desc Order Of Bpay.

```
SQL> select eid,doj,city,dept,bpay from employee where dept!='IT' and bpay between 25000 and 50000 and city in('mangalore','kasargod','bangalore') order by
bpay desc;

       EID DOJ       CITY            DEPT                      BPAY
---------- --------- --------------- -------------------- ----------
       109 23-NOV-24 bangalore       sales                     40700
```

E) Display Employee Eid1, Ename,Dob,Experience Where Dob Is Greater Than 01-Jan 2000

```
SQL> select eid1,ename,dob,experience from emp2 where dob>('01-jan-2000');

      EID1 ENAME                DOB       EXPERIENCE
---------- -------------------- --------- ----------
      1003 SAROJ                02-MAR-04          9
      1004 ROOPA                12-MAY-02         13
      1005 GARY                 16-APR-03         15
      1006 HAZEL                20-JUL-01          6
      1009 ROSHAN               18-DEC-04          5
```

G) Display Employee Eid1, Ename,DoJ,Experience Where DoJ Between 1990and 2000 In The Ascending Of Date.

```
SQL> select eid1,ename,dob,experience from emp2 where dob between('01-jan-1990')and('30-dec-2000') order by dob asc;

      EID1 ENAME                DOB       EXPERIENCE
---------- -------------------- --------- ----------
      1001 WELSON               08-FEB-95          3
      1008 RIYA                 23-OCT-97         17
      1002 SONY                 05-JAN-99          7
      1010 JOHN                 14-NOV-99          8
```

H) Display Eid1, Ename,Dob,Experience Where Name Starts With Any Letter

```
SQL> select eid1,ename,dob,experience from emp2 where ename like 'R%';

      EID1 ENAME                DOB       EXPERIENCE
---------- -------------------- --------- ----------
      1004 ROOPA                12-MAY-02         13
      1008 RIYA                 23-OCT-97         17
      1009 ROSHAN               18-DEC-04          5
```

I) display eid1,ename,dob,experience where name starts with any 3 letters with descending order of experience.

```
SQL> select eid1,ename,dob,experience from emp2 where ename like 'HAZ%' order by experience desc;

      EID1 ENAME                DOB       EXPERIENCE
---------- -------------------- --------- ----------
      1006 HAZEL                20-JUL-01          6
```

****

Exercise 4

Aim: Testing Scalar functions.

****

Part A:

1)Display Eid, Doj, City, Dept, Bpay, Status Sort In Ascending Order Of City And Descending Order Of Bpay.

```
SQL> select eid,doj,city,dept,bpay,status from employee order by city asc,bpay desc;

       EID DOJ       CITY            DEPT                      BPAY S
---------- --------- --------------- -------------------- ---------- -
       106 16-JUN-17 agra            sales                     50000 P
       109 23-NOV-24 bangalore       sales                     40700 T
       102 05-FEB-10 bangalore       IT                        27500 T
       107 19-JUL-19 kasargod        IT                        99000 T
       103 10-MAR-13 mangalore       IT                        33000 T
       101 01-JAN-09 mangalore       sales                     20000 P
       104 11-APR-15 mumbai          sales                     35000 P
       110 25-DEC-22 noida           IT                        26000 P
       105 14-MAY-11 surat           IT                        44000 T
       108 20-AUG-20 surathkal       sales                     84000 P

10 rows selected.
```

2)Display Dept Wise Total Salary

```
SQL> select dept,sum(bpay) as total_salary from employee group by dept;

DEPT                 TOTAL_SALARY
-------------------- ------------
IT                         229500
sales                      229700
```

3)Display City wise Department Wise Total Salary In The Order Of City

```
SQL> select city,dept,sum(bpay) as total_salary from employee group by city,dept order by city;

CITY            DEPT                 TOTAL_SALARY
--------------- -------------------- ------------
agra            sales                       50000
bangalore       IT                          27500
bangalore       sales                       40700
kasargod        IT                          99000
mangalore       IT                          33000
mangalore       sales                       20000
mumbai          sales                       35000
noida           IT                          26000
surat           IT                          44000
surathkal       sales                       84000

10 rows selected.
```

4)Display Max, Min And Average Of Salary From All The Dept.

```
SQL> select dept,max(bpay) as maximum_salary,min(bpay) as minimum_salary,avg(bpay)as average_salary from employee group
by dept;

DEPT                 MAXIMUM_SALARY MINIMUM_SALARY AVERAGE_SALARY
-------------------- -------------- -------------- --------------
IT                            99000          26000          45900
sales                         84000          20000          45940
```

5)Display Total And Average Salary Of All Cities Except One Particular City

```
SQL> select city,sum(bpay) as total_salary,avg(bpay) as average_salary from employee where city not in('mangalore') grou
p by city;

CITY            TOTAL_SALARY AVERAGE_SALARY
--------------- ------------ --------------
mumbai                 35000          35000
agra                   50000          50000
surathkal              84000          84000
noida                  26000          26000
kasargod               99000          99000
bangalore              68200          34100
surat                  44000          44000

7 rows selected.
```

6)display dept wise average salary for status T and P employees those who joined before 31-dec-2020.

```
SQL> select dept, status,avg(bpay) as average_salary from employee where status in('T','P') and doj>'31-dec-2020' group by dept,status ;

DEPT                 S AVERAGE_SALARY
-------------------- - --------------
sales                T          40700
IT                   P          26000
```

7)count the number of employees city wise and status wise in the ascending order of city and descending order of status

```
SQL> select city,status,count(*) as employee_count from employee group by city,status order by city asc,status desc;

CITY            S EMPLOYEE_COUNT
--------------- - --------------
agra            P              1
bangalore       T              2
kasargod        T              1
mangalore       T              1
mangalore       P              1
mumbai          P              1
noida           P              1
surat           T              1
surathkal       P              1

9 rows selected.
```

PART B:

1)Display Eid, Ename, Doj, Dept In Ascending Order Of Ename

```
SQL> select employee.eid,emp2.ename,employee.doj,employee.dept from employee,emp2 where employee.eid=emp2.eid order by ename;

       EID ENAME                DOJ       DEPT
---------- -------------------- --------- --------------------
       105 GARY                 14-MAY-11 IT
       106 HAZEL                16-JUN-17 sales
       110 JOHN                 25-DEC-22 IT
       107 LEENA                19-JUL-19 IT
       108 RIYA                 20-AUG-20 sales
       104 ROOPA                11-APR-15 sales
       109 ROSHAN               23-NOV-24 sales
       103 SAROJ                10-MAR-13 IT
       102 SONY                 05-FEB-10 IT
       101 WELSON               01-JAN-09 sales

10 rows selected.
```

2)Display Eid, Ename, Dob, City, Bpay Where City Not Equal To Mangalore In The Descending Order Of Bpay

```
SQL> select employee.eid,emp2.ename,emp2.dob,employee.city,employee.bpay from employee,emp2 where employee.eid=emp2.eid and  city!='mangalore' order by bpay
 desc;

       EID ENAME                DOB      CITY                 BPAY
---------- -------------------- -------- --------------- ----------
       107 LEENA                28-SEP-70 kasargod            99000
       108 RIYA                 23-OCT-97 surathkal           84000
       106 HAZEL                20-JUL-01 agra                50000
       105 GARY                 16-APR-03 surat               44000
       109 ROSHAN               18-DEC-04 bangalore           40700
       104 ROOPA                12-MAY-02 mumbai              35000
       102 SONY                 05-JAN-99 bangalore           27500
       110 JOHN                 14-NOV-99 noida               26000

8 rows selected.
```

3)Display Ename, Dob, Doj, Experience Where Experience Between 5 Years Ascending Order Of Ename

```
SQL> select emp2.ename,emp2.dob,employee.doj from employee,emp2 where employee.eid=emp2.eid and experience between 5 and 10 order by ename asc;

ENAME                DOB       DOJ
-------------------- --------- ---------
HAZEL                20-JUL-01 16-JUN-17
JOHN                 14-NOV-99 25-DEC-22
ROSHAN               18-DEC-04 23-NOV-24
SAROJ                02-MAR-04 10-MAR-13
SONY                 05-JAN-99 05-FEB-10
```

4)Display Ename, Doj, Experience, City Where Dob>01-Jan-1990

```
SQL> select emp2.ename,employee.doj,emp2.experience,employee.city from employee,emp2 where employee.eid=emp2.eid and dob>'01-jan-1990';

ENAME                DOJ       EXPERIENCE CITY
-------------------- --------- ---------- ---------------
WELSON               01-JAN-09          3 mangalore
SONY                 05-FEB-10          7 bangalore
SAROJ                10-MAR-13          9 mangalore
ROOPA                11-APR-15         13 mumbai
GARY                 14-MAY-11         15 surat
HAZEL                16-JUN-17          6 agra
RIYA                 20-AUG-20         17 surathkal
ROSHAN               23-NOV-24          5 bangalore
JOHN                 25-DEC-22          8 noida

9 rows selected.
```

5)Display Ename, Dept, City, Bpay, Status Where Bpay Between 25000 To 50000 And Status Is P

```
SQL> select emp2.ename,employee.dept,employee.city,employee.bpay,employee.status from employee,emp2 where employee.eid=emp2.eid and bpay between
 25000 and 50000 and status='P';

ENAME                DEPT                 CITY                 BPAY S
-------------------- -------------------- --------------- ---------- -
ROOPA                sales                mumbai              35000 P
HAZEL                sales                agra                50000 P
JOHN                 IT                   noida               26000 P
```

6)Display City, Dept, Total Of Bpay For Employee Where Experience Is Greater Than 5 Years In The Ascending Order Of City And Descending c Order Of Dept.

```
SQL> select employee.city,employee.dept,sum(employee.bpay) as total_salary from employee,emp2 where employee.eid=emp2.eid and experience>5 group
 by city,dept order by city asc,dept desc;

CITY            DEPT                 TOTAL_SALARY
--------------- -------------------- ------------
agra            sales                       50000
bangalore       IT                          27500
kasargod        IT                          99000
mangalore       IT                          33000
mumbai          sales                       35000
noida           IT                          26000
surat           IT                          44000
surathkal       sales                       84000

8 rows selected.
```

****

Exercise 5

Aim: Testing Setoperators.

****

1)Create Table Named Product1 With Following Column Pid Character (6),Pname Varchar(20),Quantity Integer, Category Varchar, Date Of Entry(Doe), Price number (10,2).

```
SQL> create table product1(
  2  pid character(6),
  3  pname varchar(20),
  4  quantity integer,
  5  pcat varchar(20),
  6  doe date,
  7  price number(10,2));

Table created.

SQL> desc product1;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PID                                                CHAR(6)
 PNAME                                              VARCHAR2(20)
 QUANTITY                                           NUMBER(38)
 PCAT                                               VARCHAR2(20)
 DOE                                                DATE
 PRICE                                              NUMBER(10,2)
```

2)Insert Minimum 10 Records

```
SQL> insert into product1(pid,pname,quantity,pcat,doe,price)values('p101','dove',10,'soap','05-apr-2024',100);

1 row created.

SQL> insert into product1(pid,pname,quantity,pcat,doe,price)values('p102','medimix',18,'soap','27-apr-2024',120);

1 row created.

SQL> insert into product1(pid,pname,quantity,pcat,doe,price)values('p103','santoor',50,'soap','04-may-2024',250);

1 row created.
```

```
SQL> select * from product1;

PID    PNAME                QUANTITY PCAT                DOE           PRICE
------ -------------------- ---------- ------------------- --------- ----------
p101   dove                         10 soap                05-APR-24        100
p102   medimix                      18 soap                27-APR-24        120
p103   santoor                      50 soap                04-MAY-24        250
p105   citaphil                     12 cosmetic            17-SEP-20       1000
p106   ahaglow                      27 face wash           29-DEC-17        350
p107   lakme                         8 cosmetic            21-JUL-15        199
p108   susilk                       30 shampoo             09-FEB-10         99
p109   pears                        17 soap                07-JAN-24         76
p110   derma                        26 cosmetic            14-AUG-13        400
p104   pantene                      60 shampoo             10-JUN-24        300

10 rows selected.
```

3)Create Table Product 2 With Same Columns As Product1

```
SQL> create table product2(
  2  pid character(6),
  3  pname varchar(20),
  4  quantity integer,
  5  pcat varchar(20),
  6  doe date,
  7  price number(10,2));

Table created.

SQL>
SQL> desc product2;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PID                                                CHAR(6)
 PNAME                                              VARCHAR2(20)
 QUANTITY                                           NUMBER(38)
 PCAT                                               VARCHAR2(20)
 DOE                                                DATE
 PRICE                                              NUMBER(10,2)
```

```
SQL> insert into product2(pid,pname,quantity,pcat,doe,price)values('p101','dove',10,'soap','05-apr-2024',100);

1 row created.

SQL> insert into product2(pid,pname,quantity,pcat,doe,price)values('p102','medimix',18,'soap','27-apr-2024',120);

1 row created.

SQL> insert into product2(pid,pname,quantity,pcat,doe,price)values('p106','ahaglow',27,'face wash','29-dec-2017',350);

1 row created.
```

```
SQL> select * from product2;

PID    PNAME                QUANTITY PCAT                DOE            PRICE
------ -------------------- ---------- -------------------- --------- ----------
p101   dove                         10 soap                 05-APR-24         100
p102   medimix                      18 soap                 27-APR-24         120
p106   ahaglow                      27 face wash            29-DEC-17         350
p111   loreal                       45 shampoo              03-MAY-24         170
p112   ponds                        16 cosmetic             13-SEP-24          49
p114   ganier                       38 face wash            20-FEB-15         270
p115   minimalist                   27 serum                19-DEC-18         180
p104   pantene                      60 shampoo              10-JUN-24         300
p116   nykaa                        50 cosmetic             14-JUN-24         400
p113   sugar                        16 cosmetic             29-JUL-08         190

10 rows selected.
```

4)Do Following Queries

1)Display All Products From Product1 And Product

```
SQL> select pid,pname,quantity,pcat,doe,price from product1
  2  union
  3  select pid,pname,quantity,pcat,doe,price from product2;

PID    PNAME                QUANTITY PCAT                DOE           PRICE
------ -------------------- ---------- -------------------- --------- ----------
p101   dove                         10 soap                 05-APR-24        100
p102   medimix                      18 soap                 27-APR-24        120
p103   santoor                      50 soap                 04-MAY-24        250
p104   pantene                      60 shampoo              10-JUN-24        300
p105   citaphil                     12 cosmetic             17-SEP-20       1000
p106   ahaglow                      27 face wash            29-DEC-17        350
p107   lakme                         8 cosmetic             21-JUL-15        199
p108   susilk                       30 shampoo              09-FEB-10         99
p109   pears                        17 soap                 07-JAN-24         76
p110   derma                        26 cosmetic             14-AUG-13        400
p111   loreal                       45 shampoo              03-MAY-24        170

PID    PNAME                QUANTITY PCAT                DOE           PRICE
------ -------------------- ---------- -------------------- --------- ----------
p112   ponds                        16 cosmetic             13-SEP-24         49
p113   sugar                        16 cosmetic             29-JUL-08        190
p114   ganier                       38 face wash            20-FEB-15        270
p115   minimalist                   27 serum                19-DEC-18        180
p116   nykaa                        50 cosmetic             14-JUN-24        400

16 rows selected.
```

2)Display All Products Which Are Common In Both The Table

```
SQL> select pid,pname,quantity,pcat,doe,price from product1
  2  intersect
  3  select pid,pname,quantity,pcat,doe,price from product2;

PID    PNAME                QUANTITY PCAT                DOE           PRICE
------ -------------------- ---------- -------------------- --------- ----------
p101   dove                         10 soap                 05-APR-24        100
p102   medimix                      18 soap                 27-APR-24        120
p104   pantene                      60 shampoo              10-JUN-24        300
p106   ahaglow                      27 face wash            29-DEC-17        350
```

3)Display All Products Which Are There In Product1 But Not In Product2

```
SQL> select pid,pname,quantity,pcat,doe,price from product1
  2  minus
  3  select pid,pname,quantity,pcat,doe,price from product2;

PID    PNAME                QUANTITY PCAT                DOE           PRICE
------ -------------------- ---------- -------------------- --------- ----------
p103   santoor                      50 soap                 04-MAY-24        250
p105   citaphil                     12 cosmetic             17-SEP-20       1000
p107   lakme                         8 cosmetic             21-JUL-15        199
p108   susilk                       30 shampoo              09-FEB-10         99
p109   pears                        17 soap                 07-JAN-24         76
p110   derma                        26 cosmetic             14-AUG-13        400

6 rows selected.
```

4)Display The Name Of The Product Whose Price Is Maximum

```
SQL> select pid,pname,price from product1 where price=(select max(price)from product1);

PID    PNAME                PRICE
------ -------------------- ----------
p105   citaphil                  1000
```

5)Display The Names Of The Product From Both The Table With Duplicates

```
SQL> select pid,pname from product1
  2  union all
  3  select pid,pname from product2;

PID    PNAME
------ --------------------
p101   dove
p102   medimix
p103   santoor
p105   citaphil
p106   ahaglow
p107   lakme
p108   susilk
p109   pears
p110   derma
p104   pantene
p101   dove

PID    PNAME
------ --------------------
p102   medimix
p106   ahaglow
p111   loreal
p112   ponds
p114   ganier
p115   minimalist
p104   pantene
p116   nykaa
p113   sugar

20 rows selected.
```

6)Display All The Products Details From Product2 Which Are Not There In Product1 And Whose Price Is Between 50 To 200.

```
SQL> select * from product2
  2  where pid not in(select pid from product1)
  3  and price between 50 and 200;

PID    PNAME                  QUANTITY PCAT                 DOE            PRICE
------ -------------------- ---------- -------------------- --------- ----------
p115   minimalist                   27 serum                19-DEC-18         180
p113   sugar                        16 cosmetic             29-JUL-08         190
p111   loreal                       45 shampoo              03-MAY-24         170
```

7)Display All The Product Details From Both The Tables Whose Doe Between April 1st To June 30 In Descending Order Of Pname.

```
SQL> select pid,pname,quantity,pcat,doe,price from product1 where doe between to_date('01-apr-2024','dd-mon-yyyy') and to_date('30-june-2024','dd-mon-yyyy')
  2  union
  3  select pid,pname,quantity,pcat,doe,price from product2 where doe between to_date('01-apr-2024','dd-mon-yyyy') and to_date('30-june-2024','dd-mon-yyyy')
 order by pname desc;

PID    PNAME                QUANTITY PCAT                 DOE           PRICE
------ -------------------- ---------- -------------------- --------- ----------
p103   santoor                     50 soap                 04-MAY-24        250
p104   pantene                     60 shampoo              10-JUN-24        300
p116   nykaa                       50 cosmetic             14-JUN-24        400
p102   medimix                     18 soap                 27-APR-24        120
p111   loreal                      45 shampoo              03-MAY-24        170
p101   dove                        10 soap                 05-APR-24        100

6 rows selected.
```

****

Exercise 6

Aim: Testing Setoperators and Subqueries.

****

Consider The Tables Created In Earlier Exercise Namely New_Customer(Custid, Cname,Dob, City, Income) And Baccount(Accid, Aname, Date1, Bal, Actype, Date2) And Create One More Table Loans(Lid Int, Custid Int, Ldate Date, Lamount Number(12,2), Lstatus Char(1) Value Should Be 'A' For Active, 'C' For Closed And 'S' For Suspended)

SQL> CREATE TABLE CUSTOMER (CUSTID INT, CNAME VARCHAR (20), DOB DATE, CITY VARCHAR (20), INCOME NUMBER (10,2));

```
Table created.

SQL> DESC CUSTOMER;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CUSTID                                             NUMBER(38)
 CNAME                                              VARCHAR2(20)
 DOB                                                DATE
 CITY                                               VARCHAR2(20)
 INCOME                                             NUMBER(10,2)
```

SQL> CREATE TABLE BACCOUNT (ACCID INT, ANAME VARCHAR (20), DATE1 DATE, BAL NUMBER (10,2), ACTYPE VARCHAR (20), DATE2 DATE);

```
Table created.

SQL> DESC BACCOUNT;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ACCID                                              NUMBER(38)
 ANAME                                              VARCHAR2(20)
 DATE1                                              DATE
 BAL                                                NUMBER(10,2)
 ACTYPE                                             VARCHAR2(20)
 DATE2                                              DATE
```

SQL> CREATE TABLE LOANS (LID INT, CUSTID INT, LDATE DATE, LAMOUNT NUMBER (12,2), LSTATUS CHAR (1) CHECK (LSTATUS IN ('A','C','S')));

```
Table created.

SQL> DESC BACCOUNT;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ACCID                                              NUMBER(38)
 ANAME                                              VARCHAR2(20)
 DATE1                                              DATE
 BAL                                                NUMBER(10,2)
 ACTYPE                                             VARCHAR2(20)
 DATE2                                              DATE
```

INSERT RECORD:

SQL> INSERT INTO CUSTOMER (CUSTID, CNAME, DOB, CITY, INCOME) VALUES (01,'VAISH','01-JAN-2023','KARKALA', 100000);

```
SQL> SELECT * FROM CUSTOMER;

    CUSTID CNAME                DOB       CITY                    INCOME
---------- -------------------- --------- -------------------- ----------
         1 VAISH                01-JAN-23 KARKALA                 100000
         2 VAISHALI             16-FEB-23 MYSURU                  150000
         3 KAVANA               21-MAR-23 MANGALORE               160000
         4 SHRAVYA              14-APR-23 MYSURU                  190000
         5 MANMITHA             31-MAY-24 BANGALORE               200000
         6 SHARANYA             15-JUN-22 MANGALORE               250000
         7 SHRIJANA             01-AUG-22 KARKALA                  10000
         8 SHOBITHA             26-SEP-23 UDUPI                    20000
         9 SINCHANA             12-FEB-23 BANGALORE               150000
        10 NIDHI                13-JAN-23 MANGALORE               120000
```

SQL>INSERT INTO BACCOUNT (ACCID, ANAME, DATE1, BAL, ACTYPE, DATE2) VALUES (01,'VAISH','01-JAN-2024',10000,'SAVINGS','31-DEC-2024');

```
SQL> SELECT * FROM BACCOUNT;

     ACCID ANAME                DATE1           BAL ACTYPE               DATE2
---------- -------------------- --------- ---------- -------------------- ---------
         1 VAISH                01-JAN-24      10000 SAVINGS              31-DEC-24
         2 RASHMITHA            21-FEB-22      25000 CUURENT              01-JAN-23
         3 VAISHALI             18-MAR-23      18000 SAVINGS              01-JAN-24
         4 SANJANA              21-NOV-22     100000 SAVINGS              14-MAR-23
         5 SHOBITHA             02-FEB-24      19000 CURRENT              19-APR-24
         6 SUSHMITHA            01-MAR-22      10000 CURRENT              31-MAR-23
         7 SHARANYA             16-MAY-23     200000 SAVINGS              31-MAR-23
         8 SHURTHA              19-JUN-23     150000 SAVINGS              30-JUN-24
         9 SAMEEKSHA            20-AUG-21      18000 CURRENT              18-NOV-22
        10 NIDHI                01-JAN-24     300000 SAVINGS              30-NOV-24
```

SQL> INSERT INTO LOANS (LID, CUSTID, LDATE, LAMOUNT, LSTATUS) VALUES (11,01,'12-APRIL-2022',500000,'A');

```
SQL> SELECT * FROM LOANS;

       LID     CUSTID LDATE        LAMOUNT L
---------- ---------- --------- ---------- -
        11          1 12-APR-23     500000 A
        12          2 11-MAY-00      60000 C
        13          3 21-JAN-99      80000 A
        14          4 30-NOV-21     100000 S
        15         15 18-FEB-00     150000 S
        16         19 31-MAR-24     200000 C
        17         18 12-JAN-22      70000 S
        18         14 14-MAY-23     250000 A
        19         19 20-SEP-22     100000 C
        11         12 19-DEC-23      90000 S
```

Perform the following queries

i)Display Custid, Cname, Accid, Balance, Date1 In The Ascending Order Of Bal And Descending Order Of Cname

SQL> SELECT CUSTID, CNAME, ACCID, BAL, DATE1 FROM CUSTOMER, BACCOUNT WHERE CUSTOMER.CUSTID=BACCOUNT.ACCID ORDER BY BAL, CNAME DESC;

CUSTID	CNAME	ACCID	BAL	DATE1
1	VAISH	1	10000	01-JAN-24
6	SHARANYA	6	10000	01-MAR-22
9	SINCHANA	9	18000	20-AUG-21
3	KAVANA	3	18000	18-MAR-23
5	MANMITHA	5	19000	02-FEB-24
2	VAISHALI	2	25000	21-FEB-22
4	SHRAVYA	4	100000	21-NOV-22
8	SHOBITHA	8	150000	19-JUN-23
7	SHRIJANA	7	200000	16-MAY-23
10	NIDHI	10	300000	01-JAN-24

ii)Display City Name, Month Name And Total Lamount In The Descending Order Of Total Loan Amount

SQL> SELECT C. CITY, TO_CHAR (L. LDATE,'MONTH') AS MONTH, SUM (L. LAMOUNT) AS TOTAL_LAMOUNT FROM CUSTOMER C JOIN LOANS L ON C. CUSTID=L.CUSTID GROUP BY C. CITY, TO_CHAR (L. LDATE,'MONTH') ORDER BY TOTAL_LAMOUNT DESC;

CITY	MONTH	TOTAL_LAMOUNT
KARKALA	APRIL	500000
MYSURU	NOVEMBER	100000
MANGALORE	JANUARY	80000
MYSURU	MAY	60000

iii)Display The Names Of Customers Whose Bank Balance Is Maximum

SQL> SELECT C. CNAME, B.BAL FROM CUSTOMER C JOIN BACCOUNT B ON C. CUSTID= B. ACCID WHERE B.BAL= (SELECT MAX(BAL) FROM BACCOUNT);

CNAME	BAL
NIDHI	300000

iv) Display The Names Of Customers Whose Loan Amount Is Maximum In Between 1st April 2023 To 30th June 2023

SQL> SELECT C. CNAME, L. LAMOUNT, L. LDATE FROM CUSTOMER C JOIN LOANS L ON C. CUSTID=L.CUSTID WHERE L. LAMOUNT= (SELECT MAX(LAMOUNT)FROM LOANS) AND LDATE BETWEEN '01-APRIL-2023'AND '30 JUNE-2023';

CNAME	LAMOUNT	LDATE
VAISH	500000	12-APR-23

v)Display City, Customer Names, Month Names, Lamount Where Month Names Are ‘Jan’, ‘Feb’, ‘Mar’ And ‘April’

SQL>SELECT C. CITY, C. CNAME, TO_CHAR (L. LDATE, 'MON') AS MONTH, L. LAMOUNT FROM CUSTOMER C JOIN LOANS L ON C. CUSTID = L. CUSTID WHERE TO_CHAR (L. LDATE, 'MON') IN ('JAN', 'FEB', 'MAR', 'APR’) ORDER BY C. CITY, MONTH;

CITY	CNAME	MON	LAMOUNT
KARKALA	VAISH	APR	500000
MANGALORE	KAVANA	JAN	80000

vi)Display Custid, Cname, Accid, Balance, Lid, Lamount In The Ascending Order Of Lamount

SQL> SELECT C. CUSTID, C. CNAME, B. ACCID, B.BAL, L.LID, L. LAMOUNT FROM CUSTOMER C JOIN BACCOUNT B ON C. CUSTID=B.ACCID JOIN LOANS L ON C. CUSTID = L. CUSTID ORDER BY L. LAMOUNT ASC;

CUSTID	CNAME	ACCID	BAL	LID	LAMOUNT
2	VAISHALI	2	25000	12	60000
3	KAVANA	3	18000	13	80000
4	SHRAVYA	4	100000	14	100000
1	VAISH	1	10000	11	500000

Vii)Display Custid, Cname, Accid, Balance, Lid, Lamount In The Ascending Order Of Lamount For Lamount Between 50,000 And 1,00,000

SQL> SELECT C. CUSTID, C. CNAME, B. ACCID, B.BAL, L.LID, L. LAMOUNT FROM CUSTOMER C JOIN BACCOUNT B ON C. CUSTID=B.ACCID JOIN LOANS L ON C. CUSTID=L.CUSTID WHERE L. LAMOUNT BETWEEN 50000 AND 100000 ORDER BY L. LAMOUNT ASC;

CUSTID	CNAME	ACCID	BAL	LID	LAMOUNT
2	VAISHALI	2	25000	12	60000
3	KAVANA	3	18000	13	80000
4	SHRAVYA	4	100000	14	100000

Viii)Display Cityname And Total Of Bal In The Descending Order Of City

SQL>SELECT CITY, MAX(BAL) FROM CUSTOMER, BACCOUNT WHERE CUSTOMER.CUSTID=BACCOUNT.ACCID GROUP BY CITY ORDER BY CITY DESC;

CITY	MAX(BAL)
UDUPI	150000
MYSURU	100000
MANGALORE	300000
KARKALA	200000
BANGALORE	19000

ix)Display Cityname And Total Of Bal , Avg Of Bal , Max And Min Of Bal In The Descending Order Of City

SQL> SELECT C. CITY, SUM(B.BAL) AS TOTAL, AVG(B.BAL) AS AVERAGE, MAX(B.BAL) AS MAXIMUM, MIN(B.BAL) AS MINIMUM FROM CUSTOMER C JOIN BACCOUNT B ON C. CUSTID=B.ACCID GROUP BY C. CITY ORDER BY C. CITY DESC;

CITY	TOTAL	AVERAGE	MAXIMUM	MINIMUM
UDUPI	150000	150000	150000	150000
MYSURU	125000	62500	100000	25000
MANGALORE	328000	109333.333	300000	10000
KARKALA	210000	105000	200000	10000
BANGALORE	37000	18500	19000	18000

x)Display Cityname And Lstatus And Total Of Lamount In The Descending Order Of City

SQL> SELECT C. CITY, L. LSTATUS, SUM (L. LAMOUNT) AS TOTAL FROM CUSTOMER C JOIN LOANS L ON C. CUSTID=L.CUSTID GROUP BY C. CITY, L. LSTATUS ORDER BY C. CITY DESC;

CITY	L	TOTAL
MYSURU	C	60000
MYSURU	S	100000
MANGALORE	A	80000
KARKALA	A	500000

Xi)Display Cityname And Lstatus And Total Of Lamount In The Descending Order Of City For Ldate Between 1st April 2022 To 31st March 2024

SQL> SELECT C. CITY, L. LSTATUS, SUM (L. LAMOUNT) AS TOTAL FROM CUSTOMER C JOIN LOANS L ON C. CUSTID=L.CUSTID WHERE L. LDATE BETWEEN '01-APR-2022'AND '31-MARCH-2024' GROUP BY C. CITY, L. LSTATUS ORDER BY C. CITY DESC;

CITY	L	TOTAL
KARKALA	A	500000

xii)Display Cityname And Lstatus And Total Of Lamount In The Descending Order Of City Where Total Sum < 5,00,000

SQL> SELECT C. CITY, L. LSTATUS, SUM (L. LAMOUNT) AS TOTAL FROM CUSTOMER C JOIN LOANS L ON C. CUSTID=L.CUSTID WHERE L. LAMOUNT

CITY	L	TOTAL
MYSURU	C	60000
MYSURU	S	100000
MANGALORE	A	80000

xiii)Count The Number Of Baccounts Citywise And Actype Where Date1> 1st Jan 2022

SQL> SELECT C. CITY, COUNT (B. ACCID), B. ACTYPE FROM CUSTOMER C JOIN BACCOUNT B ON C. CUSTID=B.ACCID WHERE B. DATE1> '01-JAN-2022' GROUP BY C. CITY, B. ACTYPE ORDER BY C. CITY, B. ACTYPE;

```
CITY                 COUNT(B.ACCID) ACTYPE
-------------------- -------------- --------------------
BANGALORE                         1 CURRENT
KARKALA                           2 SAVINGS
MANGALORE                         1 CURRENT
MANGALORE                         2 SAVINGS
MYSURU                            1 CUURENT
MYSURU                            1 SAVINGS
UDUPI                             1 SAVINGS
```

Sub Queries and set operators :

a) Display Customer Names Who Are NOT There In Baccount

SQL> SELECT CNAME FROM CUSTOMER WHERE CNAME NOT IN (SELECT ANAME FROM BACCOUNT);

```
CNAME
----------------
KAVANA
SHRAVYA
MANMITHA
SHRIJANA
SINCHANA
```

b) Display Customer Names Who Are NOT There In Loans In The Descending Order Of Name

SQL> SELECT CNAME FROM CUSTOMER WHERE CUSTID NOT IN (SELECT CUSTID FROM LOANS) ORDER BY CNAME DESC;

```
CNAME
--------------------
SINCHANA
SHRIJANA
SHOBITHA
SHARANYA
NIDHI
MANMITHA
```

c)Display Customer Names Who Are There In Both Loans And Baccount

SQL> SELECT CNAME FROM CUSTOMER WHERE CNAME IN (SELECT ANAME FROM BACCOUNT) AND CUSTID IN (SELECT CUSTID FROM LOANS);

```
CNAME
--------------------
VAISH
VAISHALI
```

d) Display Customer Name Those Are There In Loans But Not In Baccount

SQL> SELECT CNAME FROM CUSTOMER WHERE CNAME NOT IN (SELECT ANAME FROM BACCOUNT) AND CUSTID IN (SELECT CUSTID FROM LOANS);

```
CNAME
--------------------
KAVANA
SHRAVYA
```

e) Display Customer Details Who Have Opened Bank Account In Between 1st Jan 2024 To 30th November 2024

SQL> SELECT * FROM CUSTOMER C WHERE C. CUSTID IN (SELECT B. ACCID FROM BACCOUNT B WHERE B. DATE1 BETWEEN '01-JAN-2024' AND '30-NOV 2024');

```
  CUSTID CNAME                DOB       CITY                     INCOME
-------- -------------------- --------- -------------------- ----------
       1 VAISH                01-JAN-23 KARKALA                  100000
       5 MANMITHA             31-MAY-24 BANGALORE                200000
      10 NIDHI                13-JAN-23 MANGALORE                120000
```

f) Display The Details Of Customers Who Are NOT There In Both Loans And Baccount

SQL> SELECT CNAME FROM CUSTOMER WHERE CNAME NOT IN (SELECT ANAME FROM BACCOUNT) AND CUSTID NOT IN (SELECT CUSTID FROM LOANS);

```
CNAME
--------------------
MANMITHA
SHRIJANA
SINCHANA
```

g) Display Customer Name, Month Of Birth, City Income Of Those Customers Who Have Opened Both Loan Account And Bank Account

SQL> SELECT CNAME, TO_CHAR(DOB,'MONTH') AS MONTH_OF_BIRTH, CITY, INCOME FROM CUSTOMER WHERE CUSTID IN (SELECT ACCID FROM BACCOUNT) AND CUSTID IN (SELECT CUSTID FROM LOANS);

```
CNAME                MONTH_OF_ CITY                     INCOME
-------------------- --------- -------------------- ----------
VAISH                JANUARY   KARKALA                  100000
VAISHALI             FEBRUARY  MYSURU                   150000
KAVANA               MARCH     MANGALORE                160000
SHRAVYA              APRIL     MYSURU                   190000
```

****

Exercise 7

Aim: To test Advance PL/SQL Programs.

****

PL/SQL

1) Create a trigger on Customer table which fires when one record is inserted into Customer table. Display the message 'One record inserted'.

Program:

CREATE TABLE CUSTOMER (CID INT, NAME VARCHAR (30), CITY VARCHAR (30));

/* PL/SQL program to create a trigger on customer table which fires when one record is inserted into customer table and display the message 'one record inserted'*/

```
SQL> CREATE OR REPLACE TRIGGER TRIG_CUSTOMER
  2  AFTER INSERT ON CUSTOMER FOR EACH ROW
  3  DECLARE
  4  BEGIN
  5  IF INSERTING THEN
  6  DBMS_OUTPUT.PUT_LINE('ONE RECORD INSERTED');
  7  ELSE
  8  DBMS_OUTPUT.PUT_LINE('NO RECORD IS INSERTED');
  9  END IF;
 10  END;
 11  /

Trigger created.

SQL> SET SERVEROUTPUT ON;
SQL> INSERT INTO CUSTOMER (CID,CNAME,CITY,INCOME)VALUES(101,'NIDHI','MANGALORE',80000);
ONE RECORD INSERTED

1 row created.
```

2) Create a table named Product1 and create trigger on BAccount table which fires on any DML operations and display appropriate messages like 'One record inserted /updated /deleted'.

Program:

```
SQL> CREATE OR REPLACE TRIGGER TRIG_BA_AC
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON BA FOR EACH ROW
  4  DECLARE
  5  BEGIN
  6  IF INSERTING THEN
  7  DBMS_OUTPUT.PUT_LINE('ONE RECORD INSERTED');
  8  ELSIF UPDATING THEN
  9  DBMS_OUTPUT.PUT_LINE('ONE RECORD UPDATED');
 10  ELSE
 11  DBMS_OUTPUT.PUT_LINE('ONE RECORD DELETED');
 12  END IF;
 13  END;
 14  /

Trigger created.

SQL> INSERT INTO BA(ID,HOLDER_NAME,AC_TYPE,AOD)VALUES(101,'SUHANA','SAVING','30-DEC-2021');
ONE RECORD INSERTED

1 row created.

SQL> INSERT INTO BA(ID,HOLDER_NAME,AC_TYPE,AOD)VALUES(102,'RADHIKA','CURRENT','04-AUG-2022');
ONE RECORD INSERTED

1 row created.

SQL> UPDATE BA SET AC_TYPE='FD' WHERE ID=102;
ONE RECORD UPDATED

1 row updated.

SQL> DELETE BA WHERE ID=101;
ONE RECORD DELETED

1 row deleted.
```

```
SQL> SELECT * FROM BA;

        ID HOLDER_NAME
---------- --------------------
AC_TYPE                                                  AOD
-------------------------------------------------------- ---------
       102 RADHIKA
FD                                                       04-AUG-22
```

3)Create a table named Baccount2 with same structure as Baccount and one extra column namely Action char(1), and create trigger on Baccount table which fires on any DML operations and display appropriate messages like 'One record inserted/updated/deleted' and at the same time the updated, deleted and inserted records are stored in Baccount2.

Note: Type column value in Baccount2 maybe 'I' for insert, 'D' for delete and 'U' for update.

Program:

```
SQL> CREATE TABLE BA2(ID INT,HOLDER_NAME VARCHAR(20),AC_TYPE VARCHAR(50),AOD DATE,action char(1));

Table created.

SQL> CREATE OR REPLACE TRIGGER TRIG_BA2_AC
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON BA FOR EACH ROW
  4  DECLARE
  5  BEGIN
  6  IF INSERTING THEN
  7  DBMS_OUTPUT.PUT_LINE('ONE RECORD INSERTED');
  8  INSERT INTO BA2 VALUES(:NEW.ID,:NEW.HOLDER_NAME,:NEW.AC_TYPE,:NEW.AOD,'I');
  9  ELSIF UPDATING THEN
 10  DBMS_OUTPUT.PUT_LINE('ONE RECORD UPDATED');
 11  INSERT INTO BA2 VALUES(:OLD.ID,:OLD.HOLDER_NAME,:OLD.AC_TYPE,:OLD.AOD,'U');
 12  ELSE
 13  DBMS_OUTPUT.PUT_LINE('ONE RECORD DELETED');
 14  INSERT INTO BA2 VALUES(:OLD.ID,:OLD.HOLDER_NAME,:OLD.AC_TYPE,:OLD.AOD,'D');
 15  END IF;
 16  END;
 17  /

Trigger created.

SQL> SET SERVEROUTPUT ON;
SQL> INSERT INTO BA(ID,HOLDER_NAME,AC_TYPE,AOD)VALUES(103,'CHAITHRA','RD','13-SEP-2024');
ONE RECORD INSERTED
ONE RECORD INSERTED

1 row created.

SQL> UPDATE BA SET AC_TYPE='NRI' WHERE ID=103;
ONE RECORD UPDATED
ONE RECORD UPDATED

1 row updated.

SQL> DELETE BA WHERE ID=103;
ONE RECORD DELETED
ONE RECORD DELETED

1 row deleted.
```

```
SQL> SELECT * FROM BA2;

        ID HOLDER_NAME
---------- --------------------
AC_TYPE                                            AOD       A
-------------------------------------------------- --------- -
       103 CHAITHRA
RD                                                 13-SEP-24 I

       103 CHAITHRA
RD                                                 13-SEP-24 U

       103 CHAITHRA
NRI                                                13-SEP-24 D
```

4) Create a stored function which returns the average of 4 numbers.

Program:

/* Creating a stored function which return the average of 4 numbers */

```
SQL> create or replace function average1(n1 in int,n2 in int,n3 in int,n4 in int)
  2  return number IS
  3  R1 number;
  4  Begin
  5     R1:=(n1+n2+n3+n4)/4;
  6     return R1;
  7  End;
  8  /

Function created.
```

```
SQL> select average1(15,10,20,50)from dual;

AVERAGE1(15,10,20,50)
---------------------
                23.75
```

5) Create a stored function which returns 1 if a particular Customer id is found in Customer table else returns zero.

Program:

/* Creating a stored function which returns 1 if the given record is found in customer table And returns 0 if the record is not found */

```
SQL> CREATE OR REPLACE FUNCTION F_REC(N1 IN INT)
  2  RETURN NUMBER IS
  3  F1 INT;
  4  BEGIN
  5  SELECT DISTINCT CID INTO F1 FROM CUSTOMER WHERE CID=N1;
  6  RETURN 1;
  7  EXCEPTION
  8  WHEN NO_DATA_FOUND THEN
  9  RETURN 0;
 10  END;
 11  /

Function created.
```

```
SQL> SET SERVEROUTPUT ON;
SQL> SELECT F_REC(101)FROM DUAL;

F_REC(101)
----------
         1
```

```
SQL> SELECT F_REC(102)FROM DUAL;

F_REC(102)
----------
         0
```

6) Write a cursor program: Create a cursor using Employee table. Read all the rows from the cursor and print 4 columns namely EID, Ename, Designation.

Program:

/* To create Cursor from Employee table and read the values from the Explicit cursor and print 4 columns namely EID, Ename, Designation and Bpay and print these values. */

```
SQL> Declare
  2     cursor cur_emp IS select eid,ename,designation,bpay from employee1;
  3     meid employee1.eid%type;
  4     mename employee1.ename%type;
  5     mdesignation employee1.designation%type;
  6     mbpay employee1.bpay%type;
  7  Begin
  8     open cur_emp;
  9     if cur_emp%ISOPEN then
 10             dbms_output.put_line('empid     empname         designation     bpay');
 11             dbms_output.put_line('------------------------------');
 12             LOOP
 13                     fetch cur_emp into meid,mename,mdesignation,mbpay;
 14             EXIT when cur_emp%NOTFOUND;
 15             dbms_output.put_line(meid||'    '||mename||'      '||mdesignation||'            '||mbpay);
 16             END LOOP;
 17     close cur_emp;
 18  end if;
 19  end;
 20  /
empid   empname         designation     bpay
------------------------------
1       alice     HR            200000
2       alok      accountant            50000
3       riyaan    manager               100000
4       tim       professor             150000
5       yash      CEO           200000
6       sasha     assistant             75000
7       charan    director              175000

PL/SQL procedure successfully completed.
```

7) Write a PL/SQL program using implicit cursor to display how many records are updated in a customer table.

Program:

/*Create a customer table and the read the value from implicit cursor and print how may rows are updated. */

```
SQL> CREATE TABLE employee
  2  ( employee_id integer,
  3  first_name varchar(10),
  4  salary number(10,2),
  5  depart_id integer );

Table created.

SQL> INSERT INTO employee VALUES (100,'karthik',100000,10);

1 row created.
```

```
SQL> SET SERVEROUTPUT ON;
SQL> DECLARE
  2     v_employee_id employee.employee_id%TYPE;
  3     v_employee_name employee.first_name%TYPE;
  4  BEGIN
  5     SELECT employee_id, first_name
  6     INTO v_employee_id, v_employee_name
  7     FROM employee
  8     WHERE employee_id = 100;
  9
 10     DBMS_OUTPUT.PUT_LINE('After SELECT statement:');
 11     DBMS_OUTPUT.PUT_LINE('SQL%FOUND = ' || CASE WHEN SQL%FOUND THEN 'TRUE' ELSE 'FALSE' END);
 12     DBMS_OUTPUT.PUT_LINE('SQL%NOTFOUND = ' || CASE WHEN SQL%NOTFOUND THEN 'TRUE' ELSE 'FALSE' END);
 13     DBMS_OUTPUT.PUT_LINE('SQL%ISOPEN = ' || CASE WHEN SQL%ISOPEN THEN 'TRUE' ELSE 'FALSE' END);
 14     DBMS_OUTPUT.PUT_LINE('SQL%ROWCOUNT = ' || SQL%ROWCOUNT);
 15
 16     UPDATE employee
 17     SET salary = salary + 100
 18     WHERE depart_id = 10;
 19
 20     DBMS_OUTPUT.PUT_LINE('After UPDATE statement:');
 21     DBMS_OUTPUT.PUT_LINE('SQL%FOUND = ' || CASE WHEN SQL%FOUND THEN 'TRUE' ELSE 'FALSE' END);
 22     DBMS_OUTPUT.PUT_LINE('SQL%NOTFOUND = ' || CASE WHEN SQL%NOTFOUND THEN 'TRUE' ELSE 'FALSE' END);
 23     DBMS_OUTPUT.PUT_LINE('SQL%ISOPEN = ' || CASE WHEN SQL%ISOPEN THEN 'TRUE' ELSE 'FALSE' END);
 24     DBMS_OUTPUT.PUT_LINE('SQL%ROWCOUNT = ' || SQL%ROWCOUNT);
 25  EXCEPTION
 26     WHEN NO_DATA_FOUND THEN
 27        DBMS_OUTPUT.PUT_LINE('No employee found with the given ID.');
 28     WHEN OTHERS THEN
 29        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
 30  END;
 31  /
```

```
After SELECT statement:
SQL%FOUND = TRUE
SQL%NOTFOUND = FALSE
SQL%ISOPEN = FALSE
SQL%ROWCOUNT = 1
After UPDATE statement:
SQL%FOUND = TRUE
SQL%NOTFOUND = FALSE
SQL%ISOPEN = FALSE
SQL%ROWCOUNT = 1

PL/SQL procedure successfully completed.
```

8) Write a PL/SQL program using Cursor For Loop and print the details of any table in a neat format

Program:

/* To create cursor from employee table and read the values from the Explicit cursor and print 4 columns namely EID, ENAME, DOJ, Designation and Bpay and print these values */

```
SQL> CREATE TABLE EMP(EID INT,ENAME VARCHAR(20),DATE_JOIN DATE,DESIGNATION VARCHAR(50),BASIC_PAY NUMBER(10,2));

Table created.

SQL> INSERT INTO EMP VALUES(101,'SUMANA','14-NOV-1994','MANAGER',47200);

1 row created.

SQL> INSERT INTO EMP VALUES(102,'NAYANA','31-OCT-2002','ACCOUNTANT',25000);

1 row created.

SQL> INSERT INTO EMP VALUES(103,'SAHANA','15-APR-1990','PT',29000);

1 row created.

SQL> INSERT INTO EMP VALUES(104,'RAJITH','19-NOV-1993','CA',52000);

1 row created.

SQL> INSERT INTO EMP VALUES(105,'RANJITHA','08-NOV-2003','ATTENDER',27000);

1 row created.

SQL> INSERT INTO EMP VALUES(106,'RASHMITHA','01-MAR-1999','EMMPLOYEE',40500);

1 row created.

SQL> INSERT INTO EMP VALUES(107,'BEBI','16-NOV-2000','SENIOR MANAGER',60000);

1 row created.

SQL> INSERT INTO EMP VALUES(108,'HARISH','23-MAY-2001','ASSISTANT PT',30000);

1 row created.
```

```
SQL> DECLARE
  2    CURSOR MY_CURS IS SELECT EID,ENAME,DATE_JOIN,DESIGNATION,BASIC_PAY FROM EMP;
  3    BEGIN
  4    FOR REC1 IN MY_CURS
  5    LOOP
  6    DBMS_OUTPUT.PUT_LINE(REC1.DATE_JOIN||' '||' '||REC1.DESIGNATION||' '||REC1.BASIC_PAY);
  7    END LOOP;
  8    END;
  9    /
14-NOV-94  MANAGER 47200
31-OCT-02  ACCOUNTANT 25000
15-APR-90  PT 29000
19-NOV-93  CA 52000
08-NOV-03  ATTENDER 27000
01-MAR-99  EMMPLOYEE 40500
16-NOV-00  SENIOR MANAGER 60000
23-MAY-01  ASSISTANT PT 30000

PL/SQL procedure successfully completed.
```