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## Roll No: 20-PBD-002

**1805: Database management Systems**

**Practical Assignment**

This file is submitted as a lab assignment for the subject Database System Management.

LAB EXERCISES 20-21 DATE: 13-1-2021

**1. CREATE THE DEPARTMENT AND EMPLOYEE TABLE WITH THE GIVEN TABLE STRUCTURE AND CONSTRAINTS.**

**Lab Assignment**

1. Create table Department with below given table structure and constraints.

| Column Name | Datatype | Constraints | Remarks |
|---|---|---|---|
| Dno | Number(2) | Primary Key | Department Number |
| Dname | Varchar2(15) | Unique | Department Name |
| Location | Varchar2(15) | | Default value must be set as Ahmedabad |

2. Check the table structure of Department table.

3. Create table Employee with below given table structure and constraints.

| Column Name | Datatype | Constraints | Remarks |
|---|---|---|---|
| Eno | Number(4) | Primary Key | Employee Number |
| Name | Varchar2(15) | | Employee Name |
| Surname | Varchar2(15) | | Employee last name |
| DOB | Date | | Employee's date of birth |
| DOJ | Date | | Employee's date of joining |
| Designation | Varchar2(15) | Not Null | Designation/Post of employee |
| Reporting_To | Number(4) | | Boss of the employee |
| Salary | Number(9,2) | | Minimum 5000 |
| Conveyance | Number(7,2) | | Conveyance allowance, maximum 10000 |
| Dno | Number(2) | Foreign Key | Department number of employee |
| Ensure that DOJ is greater than DOB for each employee. | | | |

```
SQL> Create table Department(
  2  Dno number(2) primary key,
  3  Dname varchar2(15) unique,
  4  Location varchar2(15) DEFAULT 'Ahmedabad');

Table created.
```

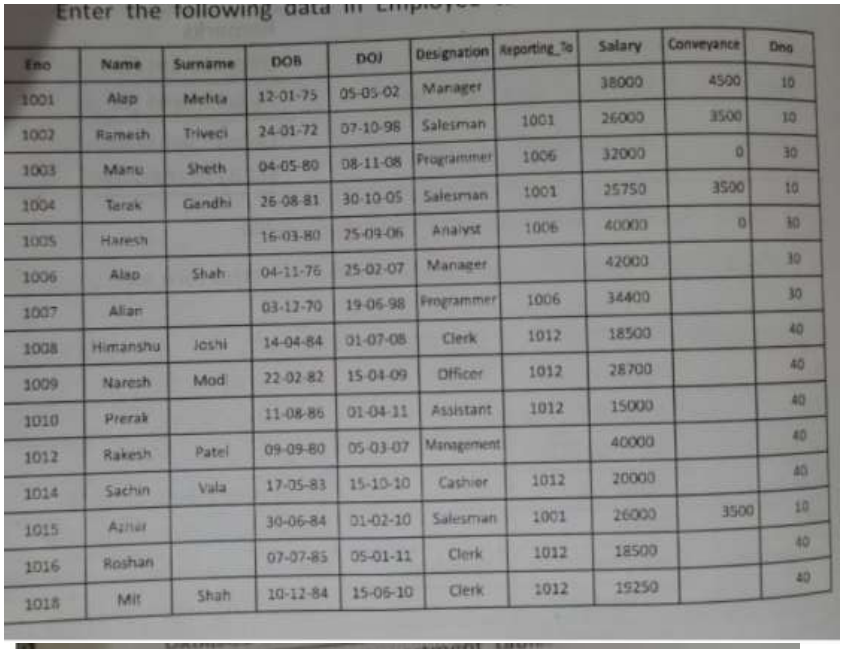
```
SQL> create table Employee(
  2  Eno number(4) primary key,
  3  Name varchar2(15),
  4  Surname varchar(15),
  5  DOB date,
  6  DOJ date,
  7  Designation varchar2(15) Not Null,
  8  Reporting_To number(4),
  9  Salary number(9,2),
 10  Conveyance Number(7,2),
 11  Dno Number(2) constraint  fk_dno  references Department(Dno),
 12  constraint chk_date check(DOJ>DOB)
 13  );

Table created.
```

**2. DISPLAY BOTH THE TABLE STRUCTURES.**

```
SQL> desc Department;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DNO                                       NOT NULL NUMBER(2)
 DNAME                                              VARCHAR2(15)
 LOCATION                                           VARCHAR2(15)
```

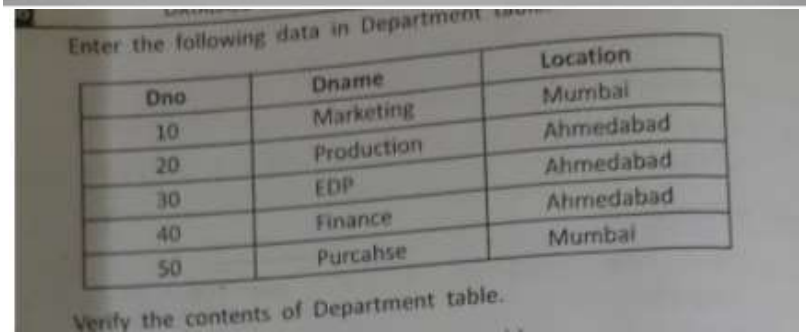
```
SQL> desc Employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ENO                                       NOT NULL NUMBER(4)
 NAME                                               VARCHAR2(15)
 SURNAME                                            VARCHAR2(15)
 DOB                                                DATE
 DOJ                                                DATE
 DESIGNATION                               NOT NULL VARCHAR2(15)
 REPORTING_TO                                       NUMBER(4)
 SALARY                                             NUMBER(9,2)
 CONVEYANCE                                         NUMBER(7,2)
 DNO                                                NUMBER(2)
```

a. **ENTER THE FOLLOWING DETAILS IN TO THE TABLES.**



| Eno | Name | Surname | DOB | DOJ | Designation | Reporting_To | Salary | Conveyance | Dno |
|---|---|---|---|---|---|---|---|---|---|
| 1001 | Alap | Mehta | 12-01-75 | 05-05-02 | Manager | | 38000 | 4500 | 10 |
| 1002 | Ramesh | Trivedi | 24-01-72 | 07-10-98 | Salesman | 1001 | 26000 | 3500 | 10 |
| 1003 | Manu | Sheth | 04-05-80 | 08-11-08 | Programmer | 1006 | 32000 | 0 | 30 |
| 1004 | Tarak | Gandhi | 26-08-81 | 30-10-05 | Salesman | 1001 | 25750 | 3500 | 10 |
| 1005 | Haresh | | 16-03-80 | 25-09-06 | Analyst | 1006 | 40000 | 0 | 30 |
| 1006 | Alap | Shah | 04-11-76 | 25-02-07 | Manager | | 42000 | | 30 |
| 1007 | Allan | | 03-12-70 | 19-06-98 | Programmer | 1006 | 34400 | | 30 |
| 1008 | Himanshu | Joshi | 14-04-84 | 01-07-08 | Clerk | 1012 | 18500 | | 40 |
| 1009 | Naresh | Mod | 22-02-82 | 15-04-09 | Officer | 1012 | 28700 | | 40 |
| 1010 | Prerak | | 11-08-86 | 01-04-11 | Assistant | 1012 | 15000 | | 40 |
| 1012 | Rakesh | Patel | 09-09-80 | 05-03-07 | Management | | 40000 | | 40 |
| 1014 | Sachin | Vala | 17-05-83 | 15-10-10 | Cashier | 1012 | 20000 | | 40 |
| 1015 | Azhar | | 30-06-84 | 01-02-10 | Salesman | 1001 | 26000 | 3500 | 10 |
| 1016 | Roshan | | 07-07-85 | 05-01-11 | Clerk | 1012 | 18500 | | 40 |
| 1018 | Mit | Shah | 10-12-84 | 15-06-10 | Clerk | 1012 | 19250 | | 40 |

b.



Enter the following data in Department

| Dno | Dname | Location |
|---|---|---|
| 10 | Marketing | Mumbai |
| 20 | Production | Ahmedabad |
| 30 | EDP | Ahmedabad |
| 40 | Finance | Ahmedabad |
| 50 | Purcahse | Mumbai |

Verify the contents of Department table.

b.

```
SQL> insert into Department values(10,'Markseting','Mumbai');

1 row created.

SQL> insert into Department values(20,'Production', default);

1 row created.

SQL> insert into Department values(30,'EDP', default);

1 row created.

SQL> insert into Department values(40,'Finance', default);

1 row created.

SQL> insert into Department values(50,'Purchase','Mumbai');

1 row created.
```

```
SQL> insert into Employee values(1001 ,'Alap','Mehta','12-JAN-75','05-MAY-02', 'Manager',NULL,38000,4500,10);

1 row created.

SQL> insert into Employee values(1002 ,'Ramesh','Trivedi','24-JAN-72','07-OCT-02', 'Salesman',1001 ,26000,3500,10);

1 row created.

SQL> insert into Employee values(1003 ,'Manu','Sheth','04-MAY-80','08-NOV-08', 'Programmer',1006,32000,0,30);

1 row created.

SQL> insert into Employee values(1004 ,'Tarak','Gandhi','26-AUG-81','30-OCT-05', 'Salesman',1001,25750,3500,10);

1 row created.

SQL> insert into Employee values(1005 ,'Haresh',NULL ,'16-MARCH-80','25-SEP-06', 'Analyst',1006,40000,0,30);

1 row created.

SQL> insert into Employee values(1006 ,'Alap','Shah' ,'04-NOV-76','25-FEB-07', 'Manager',NULL,42000,NULL,30);

1 row created.

SQL> insert into Employee values(1007 ,'Alian',NULL ,'03-DEC-70','19-JUN-98', 'Programmer',1006,34400,NULL,30);

1 row created.

SQL> insert into Employee values(1008 ,'Himanshu','Joshi' ,'14-APR-84','01-JUL-08', 'Clerk',1012,18500,NULL,40);

1 row created.

SQL> insert into Employee values(1009 ,'Naresh','Mod' ,'22-FEB-82','15-APR-09', 'Officer',1012,28700,NULL,40);

1 row created.

SQL> insert into Employee values(1012,'Rakesh','Patel' ,'09-SEP-80' ,'05-MAR-07', 'Management',NULL ,40000,NULL,40);

1 row created.

SQL> insert into Employee values(1014 ,'Sachin','Vala' ,'13-MAY-83','15-OCT-10', 'Cashier',1012,20000,NULL,40);

1 row created.

SQL> insert into Employee values(1015,'Azhar',NULL ,'30-JUN-84','01-FEB-10', 'Salesman', 1001, 40000,3500 ,10);

1 row created.
```

```
1 row created.

SQL> insert into Employee values(1014 ,'Sachin','Vala' ,'13-MAY-83','15-OCT-10', 'Cashier',1012,20000,NULL,40);

1 row created.

SQL> insert into Employee values(1015,'Azhar',NULL ,'30-JUN-84','01-FEB-10', 'Salesman', 1001, 40000,3500 ,10);

1 row created.

SQL> insert into Employee values(1016,'Roshan',NULL ,'07-JUL-87' ,'05-JAN-11' , 'Clerk',1012,18500,NULL, 40);

1 row created.

SQL> insert into Employee values(1018,'Mit','Shah' ,'10-DEC-84' ,'15-JUN-10', 'Clerk' ,1012,19250,3500, 40);

1 row created.

SQL>
```

c. **DISPLAY THE CONTENTS OF EMPLOYEE TABLE.**

```
SQL> select * from Employee;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Manager
                   38000       4500         10

      1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
        1001       26000       3500         10

      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
        1006       32000          0         30


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
      1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
        1001       25750       3500         10

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
        1006       40000          0         30

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Manager
                   42000                    30


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
      1007 Alian                           03-DEC-70 19-JUN-98 Programmer
        1006       34400                    30

      1008 Himanshu        Joshi           14-APR-84 01-JUL-08 Clerk
        1012       18500                    40

      1009 Naresh          Mod             22-FEB-82 15-APR-09 Officer
        1012       28700                    40


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
```

```
       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
      1007 Alian                           03-DEC-70 19-JUN-98 Programmer
        1006      34400                     30

      1008 Himanshu        Joshi           14-APR-84 01-JUL-08 Clerk
        1012      18500                     40

      1009 Naresh          Mod             22-FEB-82 15-APR-09 Officer
        1012      28700                     40


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
      1012 Rakesh          Patel           09-SEP-80 05-MAR-07 Management
                  40000                     40

      1014 Sachin          Vala            13-MAY-83 15-OCT-10 Cashier
        1012      20000                     40

      1015 Azhar                           30-JUN-84 01-FEB-10 Salesman
        1001      40000       3500          10


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
REPORTING_TO     SALARY CONVEYANCE        DNO
------------ ---------- ---------- ----------
      1016 Roshan                          07-JUL-87 05-JAN-11 Clerk
        1012      18500                     40

      1018 Mit             Shah            10-DEC-84 15-JUN-10 Clerk
        1012      19250       3500          40


14 rows selected.
```

**d. ADD EMAIL ID AND PHONE FIELD TO THE EMPLOYEE TABLE.**

```
SQL> alter table Employee add(Email_Id Varchar2(30));

Table altered.

SQL> alter table Employee add(Phone Number(10));

Table altered.
```

e. **CHANGE THE DATA TYPE PF PHONE FIELD FROM NUMBER TO VARCHAR 10**

```
SQL> alter table Employee modify(Phone Varchar(10));

Table altered.
```

f. **ADD CONSTRAINT UNIQUE TO BOTH THE FIELDS.**

```
SQL> alter table Employee
  2  add constraint unq unique(Email_Id,Phone);

Table altered.
```

g. **REMOVE THE REPORTING FIELD FROM EMPLOYEE TABLE.**

```
SQL> alter table Employee
  2  drop column Reporting_to;

Table altered.
```

h. **CHANGE THE NAME OF EMPLOYEE TABLE TO EMP_MASTER**

```
SQL> alter table Employee
  2  rename to Emp_Master;

Table altered.
```

i. **LIST OUT THE CONSTARINTS GIVEN ON THE EMPLOYEE TABLE**

```
SQL> SELECT COLUMN_NAME, CONSTRAINT_NAME FROM USER_CONS_COLUMNS
  2  WHERE TABLE_NAME='EMP_MASTER';

COLUMN_NAME
--------------------------------------------------------------------------------
CONSTRAINT_NAME
------------------------------
DESIGNATION
SYS_C007212

DOB
CHK_DATE

DOJ
CHK_DATE


COLUMN_NAME
--------------------------------------------------------------------------------
CONSTRAINT_NAME
------------------------------
ENO
SYS_C007214

DNO
FK_DNO

EMAIL_ID
UNQ


COLUMN_NAME
--------------------------------------------------------------------------------
CONSTRAINT_NAME
------------------------------
PHONE
UNQ


7 rows selected.
```

j. **DELETE THE EARLIER CREATED STUDENT TABLE.**

```
SQL> drop table student;

Table dropped.
```

k. **RENAME THE dno FIELD TO ‘DID’**

```
SQL> alter table Emp_master rename column dno to did;

Table altered.
```

19-1-2021

1. **Display the employee details whose salary is above 10000 and belonging to did=30.**

```
SQL> select * from employee details where salary > 10000 and did = 30;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
     32000          0         30

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
     40000          0         30

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Manager
     42000                    30


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1007 Alian                           03-DEC-70 19-JUN-98 Programmer
     34400                    30
```

2. **Display the employees who has joined in the time period of 2005 and 2010.**

```
SQL> select * from emp_master where doj between '01-JAN-2005' and '31-DEC-2010';

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
     32000          0         30

      1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
     25750       3500         10

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
     40000          0         30


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1006 Alap            Shah            04-NOV-76 25-FEB-07 Manager
     42000                   30

      1008 Himanshu        Joshi           14-APR-84 01-JUL-08 Clerk
     18500                   40

      1009 Naresh          Mod             22-FEB-82 15-APR-09 Officer
     28700                   40


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1012 Rakesh          Patel           09-SEP-80 05-MAR-07 Management
     40000                   40

      1014 Sachin          Vala            13-MAY-83 15-OCT-10 Cashier
     20000                   40

      1015 Azhar                           30-JUN-84 01-FEB-10 Salesman
     40000       3500         10


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
```

```
       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1018 Mit             Shah            10-DEC-84 15-JUN-10 Clerk
     19250       3500         40

10 rows selected.
```

3. **Display the employee details who having salary exactly 26000, 15250, 18000**

```
10 rows selected.

SQL> select * from emp_master where salary in (26000,15250,18000);

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
     26000       3500         10
```

4. **Dispay the employee details of employees whose name begin with ‘r’ and end with ‘n’.**

```
SQL> select * from emp_master where name like ’R%n’;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1016 Roshan                          07-JUL-87 05-JAN-11 Clerk
     18500                    40
```

5. **List the names of managers whose name ends with ‘p’.**

```
SQL> select * from emp_master where name like '%p’ ;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Manager
     38000       4500         10

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Manager
     42000                    30
```

6. **Dispay the employee details of employees whose name begin with ‘r’ and end with ‘n and whose salary is above 15000**

```
SQL> select * from emp_master where name like ’R%n’ and salary > 15000;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1016 Roshan                          07-JUL-87 05-JAN-11 Clerk
     18500                    40
```

7. **Display the employee name and salary including the commission.**

```
SQL> select name , salary+conveyance as total_sal from emp_master;

NAME            TOTAL_SAL
--------------- ----------
Alap                42500
Ramesh              29500
Manu                32000
Tarak               29250
Haresh              40000
Alap
Alian
Himanshu
Naresh
Rakesh
Sachin

NAME            TOTAL_SAL
--------------- ----------
Azhar               43500
Roshan
Mit                 22750

14 rows selected.
```

8. **Display the name of employee as the concatenation of name and surname.**

```
SQL> select concat(name,surname) as name from emp_master;

NAME
------------------------------
AlapMehta
RameshTrivedi
ManuSheth
TarakGandhi
Haresh
AlapShah
Alian
HimanshuJoshi
NareshMod
RakeshPatel
SachinVala

NAME
------------------------------
Azhar
Roshan
MitShah

14 rows selected.
```

9. **Display the sum of salary and conveyance as total salary.**

```
SQL> select salary+nvl(conveyance,0) as total_salary from emp_master;

TOTAL_SALARY
------------
       42500
       29500
       32000
       29250
       40000
       42000
       34400
       18500
       28700
       40000
       20000

TOTAL_SALARY
------------
       43500
       18500
       22750

14 rows selected.
```

10. **Create a new table employee from the existing table**

```
SQL> Create table employee as (select * from emp_master);

Table created.
```

11. **Insert data from department table to dept table.**

```
SQL> insert into dept(did,name) select dno,dname from department;

5 rows created.
```

12. **Update the salary by giving 10 percent increment**

```
SQL> update emp_master set salary = salary+salary*.10;

14 rows updated.
```

13. **Change the designation of manager as senior manager**

```
SQL> update emp_master set designation = 'Senior manager' where designation ='Manager';

2 rows updated.
```

14. **Delete the records having salary less than 15000**

```
SQL> delete from emp_master where salary < 15000;

0 rows deleted.
```

15. **Remove the foreign key constraint**

```
SQL> alter table emp_master drop  constraint FK_DNO;

Table altered.
```

16. **Add the foreign key constraint such as on deleting the records from parent table those values in child are set to null.**

```
SQL> alter table emp_master add constraint fk foreign key(did) references department(dno) on delete set NULL;

Table altered.
```

17. **Sort the employee table using the name field in ascending order.**

```
SQL> select * from emp_master order by name;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
     41800       4500         10

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Senior manager
     46200                    30

      1007 Alian                           03-DEC-70 19-JUN-98 Programmer
     37840                    30


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1015 Azhar                           30-JUN-84 01-FEB-10 Salesman
     44000       3500         10

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
     44000          0         30

      1008 Himanshu        Joshi           14-APR-84 01-JUL-08 Clerk
     20350                    40


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
     35200          0         30

      1018 Mit             Shah            10-DEC-84 15-JUN-10 Clerk
     21175       3500         40

      1009 Naresh          Mod             22-FEB-82 15-APR-09 Officer
     31570                    40


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
```

```
      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
     1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
    35200          0         30

     1018 Mit             Shah            10-DEC-84 15-JUN-10 Clerk
    21175       3500         40

     1009 Naresh          Mod             22-FEB-82 15-APR-09 Officer
    31570                    40


      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
     1012 Rakesh          Patel           09-SEP-80 05-MAR-07 Management
    44000                    40

     1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
    28600       3500         10

     1016 Roshan                          07-JUL-87 05-JAN-11 Clerk
    20350                    40


      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
     1014 Sachin          Vala            13-MAY-83 15-OCT-10 Cashier
    22000                    40

     1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
    28325       3500         10


14 rows selected.
```

String Functions

1. Display the employee number, first name in lowercase and last name in uppercase for all employers whose empno is in the range of 1000 and 1150.

```
SQL> select eno, lower(name) as name, upper(surname) as surname from emp_master where eno between 1000 and 1150;

      ENO NAME            SURNAME
--------- --------------- ---------------
     1001 alap            MEHTA
     1002 ramesh          TRIVEDI
     1003 manu            SHETH
     1004 tarak           GANDHI
     1005 haresh
     1006 alap            SHAH
     1007 alian
     1008 himanshu        JOSHI
     1009 naresh          MOD
     1012 rakesh          PATEL
     1014 sachin          VALA

      ENO NAME            SURNAME
--------- --------------- ---------------
     1015 azhar
     1016 roshan
     1018 mit             SHAH

14 rows selected.
```

2. Generating Email Addresses

a. For all customers – display the last name, first name and email address. The email address will be composed from the first letter of first name concatenated with three first letters of last name concatenated with the string "@mymail.com" (For example : Ram Kedem → RKED@mymail.com).

```
SQL> select surname, name, concat(lower(concat(substr(name,1,1), substr(surname,1,3))),'@mymail.com')
  2  as email from emp_master;

SURNAME         NAME            EMAIL
--------------- --------------- --------------------------
Mehta           Alap            ameh@mymail.com
Trivedi         Ramesh          rtri@mymail.com
Sheth           Manu            mshe@mymail.com
Gandhi          Tarak           tgan@mymail.com
                Haresh          h@mymail.com
Shah            Alap            asha@mymail.com
                Alian           a@mymail.com
Joshi           Himanshu        hjos@mymail.com
Mod             Naresh          nmod@mymail.com
Patel           Rakesh          rpat@mymail.com
Vala            Sachin          sval@mymail.com

SURNAME         NAME            EMAIL
--------------- --------------- --------------------------
                Azhar           a@mymail.com
                Roshan          r@mymail.com
Shah            Mit             msha@mymail.com

14 rows selected.
```

3. Display the last name and the length of the last name for all employers where last name's length is greater than 9 characters.

```
SQL> select surname, length(surname) as length_of_surname from emp_master where length(surname)>9;

no rows selected
```

4. Display the system date in the format ('dd-mm-yyyy') use to char.

```
SQL> select to_char(sysdate,'dd-mm-yyyy') from dual;

TO_CHAR(SY
----------
27-01-2021
```

5. Display system time(select to_char(sysdate,'HH24:MI:SS AM') FROM DUAL;)

```
SQL> select to_char(sysdate,'HH24:MI:SS AM') FROM DUAL;

TO_CHAR(SYS
-----------
19:43:48 PM
```

6. DISPLAY THE DOB AND BIRTHDAY OF EMPLOYEES

```
SQL> select dob as birthday, doj from emp_master;

BIRTHDAY  DOJ
--------- ---------
12-JAN-75 05-MAY-02
24-JAN-72 07-OCT-02
04-MAY-80 08-NOV-08
26-AUG-81 30-OCT-05
16-MAR-80 25-SEP-06
04-NOV-76 25-FEB-07
03-DEC-70 19-JUN-98
14-APR-84 01-JUL-08
22-FEB-82 15-APR-09
09-SEP-80 05-MAR-07
13-MAY-83 15-OCT-10

BIRTHDAY  DOJ
--------- ---------
30-JUN-84 01-FEB-10
07-JUL-87 05-JAN-11
10-DEC-84 15-JUN-10

14 rows selected.
```

7. DISPLAY THE TOTAL SALARY AS SUM OF SALARY AND COMMISSION USING nvl.

```
SQL> select salary+nvl(conveyance,0) as total_salary from emp_master;

TOTAL_SALARY
------------
       46300
       32100
       35200
       31825
       44000
       46200
       37840
       20350
       31570
       44000
       22000

TOTAL_SALARY
------------
       47500
       20350
       24675

14 rows selected.
```

8. DISPLAY THE NAME, AGE AND EXPERIENCE IN COMPANY FOR ALL EMPLOYERS

```
SQL> select name, trunc(months_between(sysdate,dob)/12) as age, trunc(months_between(doj,dob)/12) as experience from emp_master;

NAME                AGE EXPERIENCE
--------------- --------- ----------
Alap                 46         27
Ramesh               49         30
Manu                 40         28
Tarak                39         24
Haresh               40         26
Alap                 44         30
Alian                50         27
Himanshu             36         24
Naresh               38         27
Rakesh               40         26
Sachin               37         27

NAME                AGE EXPERIENCE
--------------- --------- ----------
Azhar                36         25
Roshan               33         23
Mit                  36         25

14 rows selected.
```

9. DISPLAY THE EMPLOYEE NAME AND HIS DEPARTMENT IN DESCRIPTIVE MANNER AS EMPLOYEE DETAILS.(EG: RAM PATEL IS A MANAGER BELONGING TO ACCOUNTS DEPT)

```
SQL> select emp_master.name ||' '||emp_master.surname||' is a '|| emp_master.designation||' belonging to  '
  2  || department.dname||' department.' from emp_master,department where emp_master.did = department.dno;

EMP_MASTER.NAME||''||EMP_MASTER.SURNAME||'ISA'||EMP_MASTER.DESIGNATION||'BELONGI
--------------------------------------------------------------------------------
Alap Mehta is a Senior manager belonging to  Markseting department.
Ramesh Trivedi is a Salesman belonging to  Markseting department.
Manu Sheth is a Programmer belonging to  EDP department.
Tarak Gandhi is a Salesman belonging to  Markseting department.
Haresh  is a Analyst belonging to  EDP department.
Alap Shah is a Senior manager belonging to  EDP department.
Alian  is a Programmer belonging to  EDP department.
Himanshu Joshi is a Clerk belonging to  Finance department.
Naresh Mod is a Officer belonging to  Finance department.
Rakesh Patel is a Management belonging to  Finance department.
Sachin Vala is a Cashier belonging to  Finance department.

EMP_MASTER.NAME||''||EMP_MASTER.SURNAME||'ISA'||EMP_MASTER.DESIGNATION||'BELONGI
--------------------------------------------------------------------------------
Azhar  is a Salesman belonging to  Markseting department.
Roshan  is a Clerk belonging to  Finance department.
Mit Shah is a Clerk belonging to  Finance department.

14 rows selected.
```

10. WRITE A QUERY TO EXTRACT A SUBSTRING STARTING FROM SECOND ‘A’ OF THE STRING ‘NAVRANGPURA’.

```
SQL> select substr('NAVRANGPURA',INSTR('NAVRANGPURA','A',1,2)) from dual;

SUBSTR(
-------
ANGPURA
```

11. DISPLAY THE LAST 3 LETTERS OF ‘AHMEDABAD’;

```
SQL> select substr('AHMEDABAD',-3) from dual;

SUB
---
BAD
```

12. Display the last name for all employees where last name's length is greater than 5 characters.

```
SQL> select surname from emp_master where length(surname)>5;

SURNAME
---------------
Trivedi
Gandhi
```

13. For each employee, display :first name,salary salary after a raise of 12% as a whole number (ROUND).

```
SQL> select name, round(salary+salary*.12) as salary from emp_master;

NAME               SALARY
--------------- ----------
Alap                 46816
Ramesh               32032
Manu                 39424
Tarak                31724
Haresh               49280
Alap                 51744
Alian                42381
Himanshu             22792
Naresh               35358
Rakesh               49280
Sachin               24640

NAME               SALARY
--------------- ----------
Azhar                49280
Roshan               22792
Mit                  23716

14 rows selected.
```

14. For each employee, display the first name, the day of his hire date, and the year of his hire date

```
SQL> select name, extract(day from doj) as day, extract(year from doj) as year from emp_master;

NAME                 DAY       YEAR
-------------- ---------- ----------
Alap                   5       2002
Ramesh                 7       2002
Manu                   8       2008
Tarak                 30       2005
Haresh                25       2006
Alap                  25       2007
Alian                 19       1998
Himanshu               1       2008
Naresh                15       2009
Rakesh                 5       2007
Sachin                15       2010

NAME                 DAY       YEAR
-------------- ---------- ----------
Azhar                  1       2010
Roshan                 5       2011
Mit                   15       2010

14 rows selected.
```

**AGGREGATE FUNCTIONS:**

1. **DISPLAY THE TOTAL NUMBER OF EMPLOYEES IN EACH DEPARTMENT.**

```
SQL> select did, count(eno) from Emp_master group by did;

       DID COUNT(ENO)
---------- ----------
        30          4
        40          6
        10          4
```

2. **Display the minimum,maximum,total salary of the employee.**

```
SQL> select min(salary) as minimum, max(salary) as maximum, sum(salary) as total from emp_master;

   MINIMUM    MAXIMUM      TOTAL
---------- ---------- ----------
     20350      46200     465410
```

3. **LIST THE AVERAGE SALARY FOR EACH DESIGNATION WITHIN EACH DEPT.**

```
SQL> select designation, did, avg(salary)as avg_sal from emp_master group by rollup(did,designation);

DESIGNATION           DID    AVG_SAL
--------------- ---------- ----------
Salesman               10 33641.6667
Senior manager         10      41800
                       10   35681.25
Analyst                30      44000
Programmer             30      36520
Senior manager         30      46200
                       30      40810
Clerk                  40      20625
Cashier                40      22000
Officer                40      31570
Management             40      44000

DESIGNATION           DID    AVG_SAL
--------------- ---------- ----------
                       40 26574.1667
                          33243.5714

13 rows selected.
```

4. **Display the employers by grouping them according to their designation.**

```
SQL> select designation,count(eno) from emp_master group by designation;

DESIGNATION     COUNT(ENO)
--------------- ----------
Programmer               2
Analyst                  1
Clerk                    3
Management               1
Cashier                  1
Senior manager           2
Salesman                 3
Officer                  1

8 rows selected.
```

5. **DISPLAY THE DEPARTMENTS WITH THE TOTAL NUMBER OF EMPLOYEES IN EACH AND HAVING SALARY GREATER THAN 20000.**

```
SQL> select dname, count(eno) from emp_master,department where did=dno and salary>20000 group by dname;

DNAME          COUNT(ENO)
-------------- ----------
Markseting              4
EDP                     4
Finance                 6
```

6. **CREATE A NEW EMPLOYEE TABLE AS 'EMP_TEMP' FROM THE EXISTING TABLE**

```
SQL> create table emp_temp as (select * from emp_master);

Table created.
```

**JOIN:**

7. Display the employee details ALONG WITH THE department DETAILS to which they belong.

```
SQL> select * from emp_master, department where dno=did;

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
---------- --------------- ---------------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
     41800       4500         10
        10 Markseting      Mumbai

      1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
     28600       3500         10
        10 Markseting      Mumbai

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
---------- --------------- ---------------

      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
     35200          0         30
        30 EDP             Ahmedabad

      1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
     28325       3500         10

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
```

```
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME          LOCATION
---------- -------------- ---------------

        10 Markseting     Mumbai

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
     44000          0         30
        30 EDP             Ahmedabad

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Senior manager

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME          LOCATION
---------- -------------- ---------------
     46200                    30
        30 EDP             Ahmedabad

      1007 Alian                           03-DEC-70 19-JUN-98 Programmer
     37840                    30
        30 EDP             Ahmedabad


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME          LOCATION
---------- -------------- ---------------
```

```
      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------

     1012 Rakesh          Patel           09-SEP-80 05-MAR-07 Management
    44000                    40
       40 Finance         Ahmedabad

     1014 Sachin          Vala            13-MAY-83 15-OCT-10 Cashier
    22000                    40

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------
       40 Finance         Ahmedabad

     1015 Azhar                          30-JUN-84 01-FEB-10 Salesman
    44000       3500         10
       10 Markseting      Mumbai

     1016 Roshan                         07-JUL-87 05-JAN-11 Clerk

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
```

```
      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------
    20350                    40
       40 Finance         Ahmedabad

     1018 Mit             Shah            10-DEC-84 15-JUN-10 Clerk
    21175       3500         40
       40 Finance         Ahmedabad
```

8. Write a query to extract empno, ename, salary, dname and location from employee and department table where empno = deptno without using joins

```
SQL> select eno,name,salary,dname, location from emp_master,department where dno=did;

       ENO NAME               SALARY DNAME          LOCATION
---------- --------------- ---------- -------------- ---------------
      1001 Alap                 41800 Markseting     Mumbai
      1002 Ramesh               28600 Markseting     Mumbai
      1003 Manu                 35200 EDP            Ahmedabad
      1004 Tarak                28325 Markseting     Mumbai
      1005 Haresh               44000 EDP            Ahmedabad
      1006 Alap                 46200 EDP            Ahmedabad
      1007 Alian                37840 EDP            Ahmedabad
      1008 Himanshu             20350 Finance        Ahmedabad
      1009 Naresh               31570 Finance        Ahmedabad
      1012 Rakesh               44000 Finance        Ahmedabad
      1014 Sachin               22000 Finance        Ahmedabad

       ENO NAME               SALARY DNAME          LOCATION
---------- --------------- ---------- -------------- ---------------
      1015 Azhar                44000 Markseting     Mumbai
      1016 Roshan               20350 Finance        Ahmedabad
      1018 Mit                  21175 Finance        Ahmedabad

14 rows selected.
```

9. Write a query to extract ename, salary and designation from employee and department table where deptno is 30 ,40,50..

```
SQL> select name,salary, designation from emp_master, department where dno=did and dno in (30,40,50);

NAME               SALARY DESIGNATION
--------------- ---------- ---------------
Manu                35200 Programmer
Haresh              44000 Analyst
Alap                46200 Senior manager
Alian               37840 Programmer
Himanshu            20350 Clerk
Naresh              31570 Officer
Rakesh              44000 Management
Sachin              22000 Cashier
Roshan              20350 Clerk
Mit                 21175 Clerk
```

10. Display all the employee detail and all dept details from employee and department table.

```
SQL> select * from emp_master join department on did=dno;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME           LOCATION
---------- --------------- ---------------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
     41800       4500         10
        10 Markseting      Mumbai

      1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
     28600       3500         10
        10 Markseting      Mumbai

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME           LOCATION
---------- --------------- ---------------

      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
     35200          0         30
        30 EDP             Ahmedabad

      1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
     28325       3500         10

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME           LOCATION
---------- --------------- ---------------
        10 Markseting      Mumbai

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
     44000          0         30
        30 EDP             Ahmedabad

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Senior manager

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
```

```
      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------
    46200                    30
       30 EDP             Ahmedabad

     1007 Alian                         03-DEC-70 19-JUN-98 Programmer
    37840                    30
       30 EDP             Ahmedabad


      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------
     1008 Himanshu        Joshi           14-APR-84 01-JUL-08 Clerk
    20350                    40
       40 Finance         Ahmedabad

     1009 Naresh          Mod             22-FEB-82 15-APR-09 Officer
    31570                    40
       40 Finance         Ahmedabad

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------

     1012 Rakesh          Patel           09-SEP-80 05-MAR-07 Management
    44000                    40
       40 Finance         Ahmedabad

     1014 Sachin          Vala            13-MAY-83 15-OCT-10 Cashier
    22000                    40

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
--------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
--------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
--------- --------------- ---------------
       40 Finance         Ahmedabad
```

```
      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
---------- --------------- ---------------
       40 Finance         Ahmedabad

     1015 Azhar                           30-JUN-84 01-FEB-10 Salesman
    44000       3500         10
       10 Markseting      Mumbai

     1016 Roshan                          07-JUL-87 05-JAN-11 Clerk

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
   SALARY CONVEYANCE        DID EMAIL_ID                        PHONE
---------- ---------- ---------- ------------------------------ ----------
      DNO DNAME           LOCATION
---------- --------------- ---------------
    20350                    40
       40 Finance         Ahmedabad

     1018 Mit            Shah            10-DEC-84 15-JUN-10 Clerk
    21175       3500         40
       40 Finance         Ahmedabad
```

11. Display the employee details along with the employee details(eno, name) to which they report to.(self join)

// Reporting_to column has been droppend already!!!

12. Display the employee details and department name of employees having salary greater than 21000

```
SQL> select eno,name,surname, dob, doj, designation, dname from emp_master, department where did = dno and salary>21000;

      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
DNAME
--------------
     1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
Markseting

     1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
Markseting

     1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
EDP


      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
DNAME
--------------
     1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
Markseting

     1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
EDP

     1006 Alap            Shah            04-NOV-76 25-FEB-07 Senior manager
EDP


      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
DNAME
--------------
     1007 Alian                           03-DEC-70 19-JUN-98 Programmer
EDP
```

```
      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
DNAME
--------------
      1007 Alian                          03-DEC-70 19-JUN-98 Programmer
EDP

      1009 Naresh          Mod            22-FEB-82 15-APR-09 Officer
Finance

      1012 Rakesh          Patel          09-SEP-80 05-MAR-07 Management
Finance


      ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
DNAME
--------------
      1014 Sachin          Vala           13-MAY-83 15-OCT-10 Cashier
Finance

      1015 Azhar                          30-JUN-84 01-FEB-10 Salesman
Markseting

      1018 Mit             Shah           10-DEC-84 15-JUN-10 Clerk
Finance
```

13. List the dept name and total number of employees in each dept.

```
SQL> Select dname, count(eno) from department join emp_master on department.dno=emp_master.did group by dname;

DNAME          COUNT(ENO)
-------------- ----------
Markseting              4
EDP                     4
Finance                 6
```

14. Display the employee details belonging to purchase department.

```
SQL> select * from emp_master where eno = (select dno from department where dname='Purchase');

no rows selected
```

15. Display the Cartesian product of emp and dept table.

```
SQL> select * from emp_master, department;

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME           LOCATION
---------- --------------- ---------------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
     41800       4500         10
        10 Markseting      Mumbai

      1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
     28600       3500         10
        10 Markseting      Mumbai

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
       DNO DNAME           LOCATION
---------- --------------- ---------------

      1003 Manu            Sheth           04-MAY-80 08-NOV-08 Programmer
     35200          0         30
        10 Markseting      Mumbai

      1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
     28325       3500         10

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
```

SUB QUERY:

1. Display the employee names who earn salary more than the average salary of the department.

```
SQL> select name from emp_master e,(select did, avg(salary) avsal from emp_master group by did) d
  2  where e.did = d.did and e.salary>d.avsal;

NAME
--------------
Alap
Haresh
Alap
Naresh
Rakesh
Azhar

6 rows selected.
```

2. Display the employee details who has salary more than ‘Manu’.

```
SQL> select * from emp_master where salary > (select salary from emp_master where name = 'Manu');

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
     41800       4500         10

      1005 Haresh                          16-MAR-80 25-SEP-06 Analyst
     44000          0         30

      1006 Alap            Shah            04-NOV-76 25-FEB-07 Senior manager
     46200                     30


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1007 Alian                           03-DEC-70 19-JUN-98 Programmer
     37840                     30

      1012 Rakesh          Patel           09-SEP-80 05-MAR-07 Management
     44000                     40

      1015 Azhar                           30-JUN-84 01-FEB-10 Salesman
     44000       3500         10


6 rows selected.
```

3. Display the employee details who Has the same designation as the employees belonging to department number 10.

```
SQL> select * from emp_master where designation = any(select designation from emp_master where did=10);

       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1006 Alap            Shah            04-NOV-76 25-FEB-07 Senior manager
     46200                     30

      1001 Alap            Mehta           12-JAN-75 05-MAY-02 Senior manager
     41800       4500         10

      1015 Azhar                           30-JUN-84 01-FEB-10 Salesman
     44000       3500         10


       ENO NAME            SURNAME         DOB       DOJ       DESIGNATION
---------- --------------- --------------- --------- --------- ---------------
    SALARY CONVEYANCE        DID EMAIL_ID                       PHONE
---------- ---------- ---------- ------------------------------ ----------
      1004 Tarak           Gandhi          26-AUG-81 30-OCT-05 Salesman
     28325       3500         10

      1002 Ramesh          Trivedi         24-JAN-72 07-OCT-02 Salesman
     28600       3500         10
```