1. Employee Table

```
create table employee(
test(# empid int primary key,
test(# empname varchar(100),
test(# department varchar(50),
test(# contactno varchar(100),
test(# emailId  varchar(100),
test(# empheadid int);
CREATE TABLE
test=# insert into employee values(101,'Isha','E-101',1234567890,'isha@gmail.com',105);
INSERT 0 1
test=# insert into employee values(102,'Priya','E-104',1234567890,'priya@yahoo.com',103);
INSERT 0 1
test=# insert into employee values(103,'Neha','E-101',1234567890,'neha@gmail.com',101);
INSERT 0 1
test=# insert into employee values(104,'Rahul','E-102',1234567890,'rahul@yahoo.com',105);
INSERT 0 1
test=# insert into employee values(105,'Abhishek','E-101',1234567890,'abhishek@gmail.com',102);
INSERT 0 1
test=# select * from employee;
 empid | empname  | department | contactno  |      emailid       | empheadid
-------+----------+------------+------------+--------------------+-----------
   101 | Isha     | E-101      | 1234567890 | isha@gmail.com     |       105
   102 | Priya    | E-104      | 1234567890 | priya@yahoo.com    |       103
   103 | Neha     | E-101      | 1234567890 | neha@gmail.com     |       101
   104 | Rahul    | E-102      | 1234567890 | rahul@yahoo.com    |       105
   105 | Abhishek | E-101      | 1234567890 | abhishek@gmail.com |       102
```

(5 rows)

2. Empdept Table

```
test=# create table empdept (
test(# deptid varchar(50) primary key,
test(# deptname varchar(100),
test(# dept_off varchar(100),
test(# depthead int references employee(empid));
CREATE TABLE
insert into empdept values('E=103','House Keeping','Tuesday',101);
INSERT 0 1
insert into empdept values('E=103','House Keeping','Saturday',103);
INSERT 0 1
test=# insert into empdept values('E=104','Sales','Sunday',104);
INSERT 0 1
test=# insert into empdept values('E-105','Purchage','Tuesday',104);
INSERT 0 1
test=# select * from empdept;
 deptid |   deptname    | dept_off | depthead
--------+---------------+----------+----------
 E-101  | HR            | Monday   |      105
 E-102  | Development   | Tuseday  |      101
 E=103  | House Keeping | Saturday |      103
 E=104  | Sales         | Sunday   |      104
 E-105  | Purchage      | Tuesday  |      104
(5 rows)
```

3. EmpSalary Table

```
create table empsalary(
test(# empid int references employee(empid),
test(# salary bigint,
test(# ispermanent varchar(20));
CREATE TABLE
test=# insert into empsalary values(101,2000,'Yes');
INSERT 0 1
test=# insert into empsalary values(102,10000,'Yes');
test=# insert into empsalary values (103,5000,'No');
INSERT 0 1
test=# insert into empsalary values (104,1900,'Yes');
INSERT 0 1
test=# insert into empsalary values (105,2300,'Yes');
INSERT 0 1
test=# select * from empsalary;
 empid | salary | ispermanent
-------+--------+-------------
   101 |   2000 | Yes
   102 |  10000 | Yes
   103 |   5000 | No
   104 |   1900 | Yes
   105 |   2300 | Yes
(5 rows)
```

4. Project Table

```
test=# create table project(
test(# projectid varchar(20) primary key,
```

```
test(# duration int);
CREATE TABLE
test=# insert into project values ('p-1',23);
INSERT 0 1
test=# insert into project values ('p-2',15);
INSERT 0 1
test=# insert into project values ('p-3',45);
INSERT 0 1
test=# insert into project values ('p-4',2);
INSERT 0 1
test=# insert into project values ('p-5',30);
INSERT 0 1
test=# select * from project;
 projectid | duration
-----------+----------
 p-1       |      23
 p-2       |      15
 p-3       |      45
 p-4       |       2
 p-5       |      30
(5 rows)
```

5. Country Table

```
test=# create table country(
test(# cid varchar(50) primary key,
test(# cname varchar(100));
CREATE TABLE
```

```
test=# insert into country values ('c-1','INDIA');
INSERT 0 1
test=# insert into country values ('c-2','USA');
INSERT 0 1
test=# insert into country values ('c-3','CHINA');
INSERT 0 1
test=# insert into country values ('c-4','PAKISTAN');
INSERT 0 1
test=# insert into country values ('c-5','RUSSIA');
INSERT 0 1
test=# select * from country;
 cid |  cname
-----+----------
 c-1 | INDIA
 c-2 | USA
 c-3 | CHINA
 c-4 | PAKISTAN
 c-5 | RUSSIA
(5 rows)
```

6. ClientTable

```
create table clienttable(
test(# clientid varchar(50) primary key,
test(# clientname varchar(100),
test(# cid varchar(50));
CREATE TABLE
test=# insert into clienttable values('cl-1','ABC Group','c-1');
```

```
INSERT 0 1
test=# insert into clienttable values('cl-2','PQR','c-1');
INSERT 0 1
test=# insert into clienttable values('cl-3','XYZ','c-2');
INSERT 0 1
test=# insert into clienttable values('cl-4','tech altum','c-3');
INSERT 0 1
test=# insert into clienttable values('cl-5','mnp','c-5');
INSERT 0 1
test=# select * from clienttable;
 clientid | clientname | cid
----------+------------+-----
 cl-1     | ABC Group  | c-1
 cl-2     | PQR        | c-1
 cl-3     | XYZ        | c-2
 cl-4     | tech altum | c-3
 cl-5     | mnp        | c-5
(5 rows)
```

7. EmpProject Table

```
test=# create table empproject(
test(# empid int references employee (empid),
test(# projectid varchar(50) references project(projectid),
test(# clientid varchar(50) references clienttable(clientid),
test(# startyear int,
test(# endyear int);
CREATE TABLE
```

```
test=# insert into empproject values(101,'p-1','cl-1',2010,2010);
INSERT 0 1
test=# insert into empproject values(102,'p-2','cl-2',2010,2012);
INSERT 0 1
test=# insert into empproject(empid,projectid,clientid,startyear) values(103,'p-1','cl-3',2013);
INSERT 0 1
test=# insert into empproject values(104,'p-4','cl-1',2014,2015);
INSERT 0 1
test=# insert into empproject(empid,projectid,clientid,startyear) values(105,'p-4','cl-3',2015);
INSERT 0 1
test=# select * from empproject;
 empid | projectid | clientid | startyear | endyear
-------+-----------+----------+-----------+---------
   101 | p-1       | cl-1     |      2010 |    2010
   102 | p-2       | cl-2     |      2010 |    2012
   103 | p-1       | cl-3     |      2013 |
   104 | p-4       | cl-1     |      2014 |    2015
   105 | p-4       | cl-3     |      2015 |
(5 rows)
```

1. Select the detail of the employee whose name start with P.

```
test=# select * from employee where empname like 'P%';
 empid | empname | department | contactno |     emailid     | empheadid
-------+---------+------------+------------+-----------------+-----------
   102 | Priya   | E-104      | 1234567890 | priya@yahoo.com |       103
```

2. How many permanent candidate take salary more than 5000

```
test=# select count(salary) from empsalary where ispermanent='Yes' and salary>5000;
```

```
 count
-------
     1
(1 row)
```

3. Select the detail of employee whose emailId is in gmail.

```
test=# select * from employee where emailid like '%@gmail.com';
 empid | empname  | department | contactno  |      emailid       | empheadid
-------+----------+------------+------------+--------------------+-----------
   101 | Isha     | E-101      | 1234567890 | isha@gmail.com     |       105
   103 | Neha     | E-101      | 1234567890 | neha@gmail.com     |       101
   105 | Abhishek | E-101      | 1234567890 | abhishek@gmail.com |       102
(3 rows)
```

4. Select the details of the employee who work either for department E-104 or E-102.

```
test=# select * from employee where department='E-102' or department='E-104';
 empid | empname | department | contactno  |     emailid     | empheadid
-------+---------+------------+------------+-----------------+-----------
   102 | Priya   | E-104      | 1234567890 | priya@yahoo.com |       103
   104 | Rahul   | E-102      | 1234567890 | rahul@yahoo.com |       105
(2 rows)
```

5. What is the department name for DeptID E-102?

```
test=# select deptname from empdept where deptid ='E-102';
  deptname
-------------
 Development
(1 row)
```

6. What is total salarythat is paid to permanent employees?

```
test=# select sum(salary) as salary from empsalary where ispermanent='Yes';
 salary
--------
  16200
(1 row)
```

7. List name of all employees whose name ends with a.

```
test=# select * from employee where empname like '%a';
 empid | empname | department | contactno |     emailid     | empheadid
-------+---------+------------+------------+-----------------+-----------
   101 | Isha    | E-101      | 1234567890 | isha@gmail.com  |       105
   102 | Priya   | E-104      | 1234567890 | priya@yahoo.com |       103
   103 | Neha    | E-101      | 1234567890 | neha@gmail.com  |       101
(3 rows)
```

8. List the number of department of employees in each project.

```
test=# select count(empid) as employee, projectid from empproject group by projectid;
 employee | projectid
----------+-----------
        2 | p-1
        1 | p-2
        2 | p-4
(3 rows)
```

9. How many project started in year 2010.

```
test=# select count(projectid) as project from empproject where startyear=2010;
```

```
 project
---------
       2
(1 row)
```

10. How many project started and finished in the same year.

```
test=# select count(projectid) as project from empproject where startyear=endyear;
 project
---------
       1
(1 row)
```

11. select the name of the employee whose name's 3rd character is 'h'.

```
test=# select * from employee where empname like '__h%';
 empid | empname  | department | contactno  |      emailid       | empheadid
-------+----------+------------+------------+--------------------+-----------
   101 | Isha     | E-101      | 1234567890 | isha@gmail.com     |       105
   103 | Neha     | E-101      | 1234567890 | neha@gmail.com     |       101
   104 | Rahul    | E-102      | 1234567890 | rahul@yahoo.com    |       105
   105 | Abhishek | E-101      | 1234567890 | abhishek@gmail.com |       102
(4 rows)
```

Nested Queries

1. Select the department name of the company which is assigned to the employee whose employee id is grater 103.

```
test=# select deptname from empdept where deptid in (select department from employee where empid>103);

  deptname

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

 HR

 Development

(2 rows)
```

2. Select the name of the employee who is working under Abhishek.

```
test=# select empname from employee where empheadid =(select empid from employee where empname='Abhishek') ;

 empname

---------

 Isha

 Rahul

(2 rows)
```

3. Select the name of the employee who is department head of HR.

```
test=# select empname from employee where empid =(select depthead from empdept where deptname='HR');

 empname

----------

 Abhishek

(1 row)
```

4. Select the name of the employee head who is permanent.

```
test=# select empname from employee where empid in(select empheadid from employee) and empid in(select empid from empsalary where ispermanent='Yes');
```

```
 empname
----------
 Isha
 Priya
 Abhishek
(3 rows)
```

5. Select the name and email of the Dept Head who is not Permanent.

```
test=# select empname, emailid from employee where empid in(select depthead from empdept ) and empid in(select empid from empsalary where ispermanent='No');
 empname |    emailid
---------+----------------
 Neha    | neha@gmail.com
(1 row)
```

6. Select the employee whose department off is monday

```
test=# select * from employee where department in(select deptid from empdept where dept_off='Monday');
 empid | empname  | department | contactno  |      emailid       | empheadid
-------+----------+------------+------------+--------------------+-----------
   101 | Isha     | E-101      | 1234567890 | isha@gmail.com     |       105
   103 | Neha     | E-101      | 1234567890 | neha@gmail.com     |       101
   105 | Abhishek | E-101      | 1234567890 | abhishek@gmail.com |       102
(3 rows)
```

7. select the indian clinets details.

```
test=# select * from clienttable where cid in(select cid from country where cname='INDIA');
 clientid | clientname | cid
----------+------------+-----
```

cl-1 | ABC Group | c-1

cl-2 | PQR | c-1

(2 rows)

8. select the details of all employee working in development department.

test=# select * from employee where department in(select deptid from empdept where deptname='Development');

empid | empname | department | contactno | emailid | empheadid

-------+---------+------------+------------+-----------------+-----------

104 | Rahul | E-102 | 1234567890 | rahul@yahoo.com | 105

(1 row)