1. test=# create table employee(empid int primary key, empname varchar(100), department varchar(50), contactno varchar(100), empheadid int);

test=# select * from employee;

```
 empid | empname  | department | contactno  |      emailid       | empheadid
-------+----------+------------+------------+--------------------+-----------
   101 | Sakshi   | E-101      | 1234567890 | sakshi@gmail.com   |       105
   102 | Sanjal   | E-104      | 1234567890 | sanjal@gmail.com   |       105
   103 | Neha     | E-101      | 1234567890 | neha@gmail.com     |       103
   104 | Rahul    | E-102      | 1234567890 | rahul@gmail.com    |       105
   105 | Abhishek | E-101      | 1234567890 | abhishek@gmail.com |       102
(5 rows)
```

---

2. test=# create table empdept(deptid varchar(50) primary key, deptname varchar(100), dept_off varchar(100), deptHead int references employee(empid));

select * from empdept;

```
 deptid |   deptname    | dept_off | depthead
--------+---------------+----------+----------
 E-101  | HR            | Monday   |      105
 E-102  | Development   | Tuesday  |      101
 E-103  | House Keeping | Saturday |      103
 E-104  | Sales         | Sunday   |      104
 E-105  | Purchase      | Tuesday  |      104
(5 rows)
```

---

3. test-# create table empsalary(empid int, salary int, ispermanent varchar(3));

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. test=# create table project(projectid varchar(4) primary key, duration int);

test=# select * from project;

projectid | duration

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

p-1 | 23

p-2 | 15

p-3 | 45

p-4 | 2

p-5 | 30

(5 rows)

---

5. create table country(cid varchar(5) primary key, cname varchar(10));

test=# select * from country;

cid | cname

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

c-1 | India

c-2 | USA

c-3 | China

c-4 | Pakistan

c-5 | Russia

(5 rows)

---

6. test-# create table clienttable(clientid varchar(4) primary key, clientname varchar(20), cid varchar(4));

test=# select * from clienttable;

clientid | clientname | cid

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

c1-1 | ABC Group | c-1

cl-1 | ABC Group | c-1

cl-2 | PQR | c-1

cl-3 | XYZ | c-2

cl-4 | MNO | c-3

cl-5 | JKL | c-5

(6 rows)

---

7. test=# create table empproject(empid int, projected varchar(50) primary key, clientid varchar(50),startyear int, endyear int);

CREATE TABLE

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-5 | 2015 |

(5 rows)

test=# alter table empproject add foreign key (empid) references employee(empid);

ALTER TABLE

test=# alter table empproject add foreign key (projectid) references project(projectid);

ALTER TABLE

test=# alter table empproject add foreign key (clientid) references clienttable(clientid);

ALTER TABLE

Queries:

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
----------+---------------+-----------------+---------------+-----------------+--------------------
   106   |    Priya    |       E-102     | 438593022 | priya@gmail.com |      102
(1 row)
```

---

2. How many permanent candidate take salary more than 5000.

test=# select count(salary) as count 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 | Sakshi          | E-101     | 1234567890 | sakshi@gmail.com   |      105
   102 | Sanjal          | E-104     | 1234567890 | sanjal@gmail.com   |      105
   103 | Neha            | E-101     | 1234567890 | neha@gmail.com     |      103
   104 | Rahul           | E-102     | 1234567890 | rahul@gmail.com    |      105
   105 | Abhishek     | E-101     | 1234567890 | abhishek@gmail.com |      102
   106 | Priya           | E-102     | 438593022    | priya@gmail.com    |      102
(6 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 | Sanjal  | E-104      | 1234567890 | sanjal@gmail.com |       105
   104 | Rahul   | E-102      | 1234567890 | rahul@gmail.com  |       105
   106 | Priya   | E-102      | 438593022  | priya@gmail.com  |       102
(3 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 empname from employee where empname like '%a';
 empname
---------
 Neha
 Priya
(2 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 projectid as project from empproject where startyear=2010;
 project
---------
 p-1
 p-2
(2 rows)
```

---

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 empname from employee where empname like '__h%';
 empname
----------
 Neha
 Rahul
 Abhishek
(3 rows)
```

Nested Queries

1. Select the department name of the company which is assigned to the employee whose employee id is greater 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
---------
 Sakshi
 Sanjal
 Rahul
(3 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
---------
 Sanjal
 Abhishek
(2 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 | Sakshi   | E-101      | 1234567890 | sakshi@gmail.com        |      105
103 | Neha     | E-101      | 1234567890 | neha@gmail.com          |      103
105 | Abhishek | E-101      | 1234567890 | abhishek@gmail.com |      102
```

(3 rows)

---

7. select the Indian client's details.

```
test=# select * from clienttable where cid in(select cid from country where cname='India');
 clientid | clientname | cid
----------+------------+-----
 c1-1     | ABC Group  | c-1
 cl-1     | ABC Group  | c-1
 cl-2     | PQR        | c-1
(3 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@gmail.com |       105
   106 | Priya   | E-102      | 438593022  | priya@gmail.com |       102
(2 rows)
```