Database Pra

Status

create table

```
create table EmployeeInfo(
  EmpID int primary key,
  EmpFname varchar(255) NOT NULL,
  EmpLname varchar(255) NOT NULL,
  Department varchar(255) NOT NULL,
  Project varchar(255) NOT NULL,
  Address varchar(255) NOT NULL,
  DOB date NOT NULL,
  Gender varchar(1) NOT NULL
);

----------------------output----------------------
CREATE TABLE
sql_practical=# \dt
            List of relations
 Schema |     Name     | Type  |  Owner
--------+--------------+-------+----------
 public | employeeinfo | table | postgres
(1 row)

----------------------output----------------------
create table EmployeePosition(
  EmpID int primary key,
  EmpPosition varchar(255) NOT NULL,
  DateOfJoining date NOT NULL,
  Salary int NOT NULL
);

----------------------output----------------------
CREATE TABLE
sql_practical=# /dt
sql_practical-# \dt
              List of relations
 Schema |       Name       | Type  |  Owner
--------+------------------+-------+----------
 public | employeeinfo     | table | postgres
 public | employeeposition | table | postgres
(2 rows)

----------------------output----------------------
```

Data Entry

```
insert into EmployeeInfo
(EmpID,EmpFname,EmpLname,Department,Project,Address,DOB,Gender)
```

```
Values
     (1,'Sanjay','Mehra','HR','P1','Hyderabad(HYD)',1976-01-12,'M'),
     (2,'Ananya','Mishra','Admin','P2','Delhi(DEL)','0968-05-02','F'),
     (3,'Rohan','Diwan','Account','P3','Mumbai(BOM)','1980-01-01','M'),
     (4,'Sonia','Kulkarni','HR','P1','Hydrabad(HYD)','1992-05-02','F'),
     (5,'Ankit','Kapoor','Admin','P2','Delhi(DEL)','1994-07-03',NULL);



----------------------output----------------------

sql_practical=# select * from public.employeeinfo;
 empid | empfname | emplname | department | project |    address     |    dob     | gender
-------+----------+----------+------------+---------+----------------+------------+--------
     1 | Sanjay   | Mehra    | HR         | P1      | Hyderabad(HYD) | 1976-01-12 | M
     2 | Ananya   | Mishra   | Admin      | P2      | Delhi(DEL)     | 0968-05-02 | F
     3 | Rohan    | Diwan    | Account    | P3      | Mumbai(BOM)    | 1980-01-01 | M
     4 | Sonia    | Kulkarni | HR         | P1      | Hydrabad(HYD)  | 1992-05-02 | F
     5 | Ankit    | Kapoor   | Admin      | P2      | Delhi(DEL)     | 1994-07-03 | M
(5 rows)

----------------------output----------------------



INSERT INTO public.EmployeePosition (empid,empposition,dateofjoining,salary) VALUES
     (1,'Manager','2022-05-01',500000),
     (2,'Executive','2022-05-02',75000),
     (3,'Manager','2022-05-01',90000),
     (4,'Lead','2022-05-02',85000),
     (5,'Executive','2022-05-01',300000);

----------------------output----------------------

INSERT 0 5
sql_practical=# select * from public.employeeposition;
 empid | empposition | dateofjoining | salary
-------+-------------+---------------+--------
     1 | Manager     | 2022-05-01    | 500000
     2 | Executive   | 2022-05-02    |  75000
     3 | Manager     | 2022-05-01    |  90000
     4 | Lead        | 2022-05-02    |  85000
     5 | Executive   | 2022-05-01    | 300000
(5 rows)

----------------------output----------------------
```

1. Write a query to fetch the number of employees working in the department ‘Admin’

```
select count(*) as Admin from public.employeeinfo where department='Admin';

----------------------output----------------------

admin
-------
     2
(1 row)
```

```
----------------------output----------------------
```

2. Write a query to retrieve the first four characters of EmpLname from the EmployeeInfo table.

```
SELECT substring(emplname,1,4) "1st 4 characters of first_name" FROM public.employeeinfo

----------------------output----------------------

1st 4 characters of last_name
------------------------------
 Mehr
 Mish
 Diwa
 Kulk
 Kapo
(5 rows)

----------------------output----------------------
```

3. Write a query to find all the employees whose salary is between 50000 to 100000.

```
select * from employeeposition where salary between 50000 and 100000;

----------------------output----------------------

empid  | empposition | dateofjoining | salary
-------+-------------+---------------+--------
     2 | Executive   | 2022-05-02    |  75000
     3 | Manager     | 2022-05-01    |  90000
     4 | Lead        | 2022-05-02    |  85000
(3 rows)

----------------------output----------------------
```

4. Write a query to find the names of employees that begin with ‘S’

```
select * from employeeinfo where substring(employeeinfo.empfname,1,1) = 'S';

----------------------output----------------------

empid  | empfname | emplname | department | project |    address     |    dob     | gender
-------+----------+----------+------------+---------+----------------+------------+--------
     1 | Sanjay   | Mehra    | HR         | P1      | Hyderabad(HYD) | 1976-01-12 | M
     4 | Sonia    | Kulkarni | HR         | P1      | Hydrabad(HYD)  | 1992-05-02 | F
(2 rows)

----------------------output----------------------
```

5. Write a query to fetch top N records order by salary. (ex. top 5 records)

```
select * from employeeposition order by Salary asc limit 3;

----------------------output----------------------

empid  | empposition | dateofjoining | salary
-------+-------------+---------------+--------
     2 | Executive   | 2022-05-02    |  75000
     4 | Lead        | 2022-05-02    |  85000
     3 | Manager     | 2022-05-01    |  90000
(3 rows)

----------------------output----------------------
```

6. Write a query to fetch details of all employees excluding the employees with first names, “Sanjay” and “Sonia” from the EmployeeInfo table.

```
select * from employeeinfo where empfname<>'Sanjay' and empfname<>'Sonia';

----------------------output----------------------

empid  | empfname | emplname | department | project |   address   |    dob     | gender
-------+----------+----------+------------+---------+-------------+------------+--------
     2 | Ananya   | Mishra   | Admin      | P2      | Delhi(DEL)  | 0968-05-02 | F
     3 | Rohan    | Diwan    | Account    | P3      | Mumbai(BOM) | 1980-01-01 | M
     5 | Ankit    | Kapoor   | Admin      | P2      | Delhi(DEL)  | 1994-07-03 | M
(3 rows)

----------------------output----------------------
```

7. Write a query to fetch the department-wise count of employees sorted by department’s count in ascending order.

```
select department,count(department) from employeeinfo group by department order by count(department) asc;

----------------------output----------------------

department  | count
------------+-------
 Account    |     1
 Admin      |     2
 HR         |     2
(3 rows)

----------------------output----------------------
```

8. Create indexing for any particular field and show the difference in data fetching before and after indexing

```
-----------------Before Indexing-----------------

select empfname from employeeinfo where empfname = 'Sonia';

-----------------Output Before--------------------

QUERY PLAN
-------------------------------------------------------------
 Seq Scan on employeeinfo  (cost=0.00..10.38 rows=1 width=516)
   Filter: ((empfname)::text = 'Sonia'::text)
(2 rows)

-----------------Output Before--------------------



-----------------After Indexing-------------------

create index fname_index on employeeinfo(empfname);

-----------------Output After---------------------

QUERY PLAN
-------------------------------------------------------------
 Seq Scan on employeeinfo  (cost=0.00..1.06 rows=1 width=516)
   Filter: ((empfname)::text = 'Sonia'::text)
(2 rows)

-----------------Output After---------------------
```