

**Name: Sumit Rajput (Python Trainee)**

**Submission: SQL Practical**

### EmployeeInfo Table:

The screenshot shows a PostgreSQL IDE interface. At the top, the database connection is 'postgres/sumit@Practical'. Below the connection bar is a toolbar with various icons for file operations, filters, and execution. The main editor area has two tabs: 'Query' and 'Query History'. The 'Query' tab is active, displaying the following SQL code:

```
1 create table if not exists EmployeeInfo (  
2     EmpID serial primary key,  
3     EmpFname varchar(256) not null,  
4     EmpLname varchar(256) not null,  
5     Department varchar(256),  
6     Project char(2),  
7     Address text,  
8     DOB date not null,  
9     Gender char(1) not null check (Gender in ('M','F'))  
10 );  
11  
12 select * from EmployeeInfo;
```

Below the editor is another set of tabs: 'Data Output', 'Messages', and 'Notifications'. The 'Data Output' tab is active, showing a table with the following columns and data types:

empid	empfname	emplname	department	project
[PK] integer	character varying (256)	character varying (256)	character varying (256)	character (2)

postgres/sumit@Practical

Query Query History

```

1 insert into EmployeeInfo(EmpFname, EmpLname, Department, Project, Address, DOB, Gender)
2 values
3   ('Sanjay','Mehra','HR','P1','Hyderabad(HYD)','01/12/1976','M'),
4   ('Ananya','Mishra','Admin','P2','Delhi(DEL)','02/05/1968','F'),
5   ('Rohan','Diwan','Account','P3','Mumbai(BOM)','01/12/1980','M'),
6   ('Sonia','Kulkarni','HR','P1','Hyderabad(HYD)','02/05/1992','F'),
7   ('Ankit','Kapoor','Admin','P2','Delhi(DEL)','03/07/1994','M');
8
9 select * from EmployeeInfo;
10

```

Data Output Messages Notifications

	empid [PK] integer	empfname character varying (256)	emplname character varying (256)	department character varying (256)	project character (2)	address text	dob date	gender character (1)
1	1	Sanjay	Mehra	HR	P1	Hyderabad(HYD)	1976-12-01	M
2	2	Ananya	Mishra	Admin	P2	Delhi(DEL)	1968-05-02	F
3	3	Rohan	Diwan	Account	P3	Mumbai(BOM)	1980-12-01	M
4	4	Sonia	Kulkarni	HR	P1	Hyderabad(HYD)	1992-05-02	F
5	5	Ankit	Kapoor	Admin	P2	Delhi(DEL)	1994-07-03	M

## EmployeePosition Table:



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Query Query History

```

1 insert into EmployeePosition
2   (EmpPosition,DateOfJoining,Salary)
3 values
4   ('Manager','01/05/2022','500000'),
5   ('Executive','02/05/2022','75000'),
6   ('Manager','01/05/2022','90000'),
7   ('Lead','02/05/2022','85000'),
8   ('Executive','01/05/2022','300000');
9
10 select * from EmployeePosition;

```

Data Output Messages Notifications

	empid [PK] integer	empposition character varying (256)	dateofjoining date	salary integer
1	1	Manager	2022-05-01	500000
2	2	Executive	2022-05-02	75000
3	3	Manager	2022-05-01	90000
4	4	Lead	2022-05-02	85000
5	5	Executive	2022-05-01	300000

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

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Query Query History

```
1 select count(EmpID) Empcount from EmployeeInfo where Department = 'Admin';
```

Data Output Messages Notifications

	empcount bigint
1	2

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

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Query Query History

```
1 select left(EmpLname, 4) EmpLname4 from EmployeeInfo
```

Data Output Messages Notifications

	emplname4 text
1	Mehr
2	Mish
3	Diwa
4	Kulk
5	Kapo

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

```

31 Select * From EmployeePosition Where salary Between 50000 and 100000
32

```

Data Output Messages Notifications



	empid (PK) integer	emposition character varying (20)	dateofjoining date	salary integer
1	2	Executive	2022-05-02	75000
2	3	Manager	2022-05-01	90000
3	4	Lead	2022-05-02	85000

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

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Query Query History

```

1 select EmpFname || ' ' || EmpLname as EmpName from EmployeeInfo where EmpFname like 'S%'

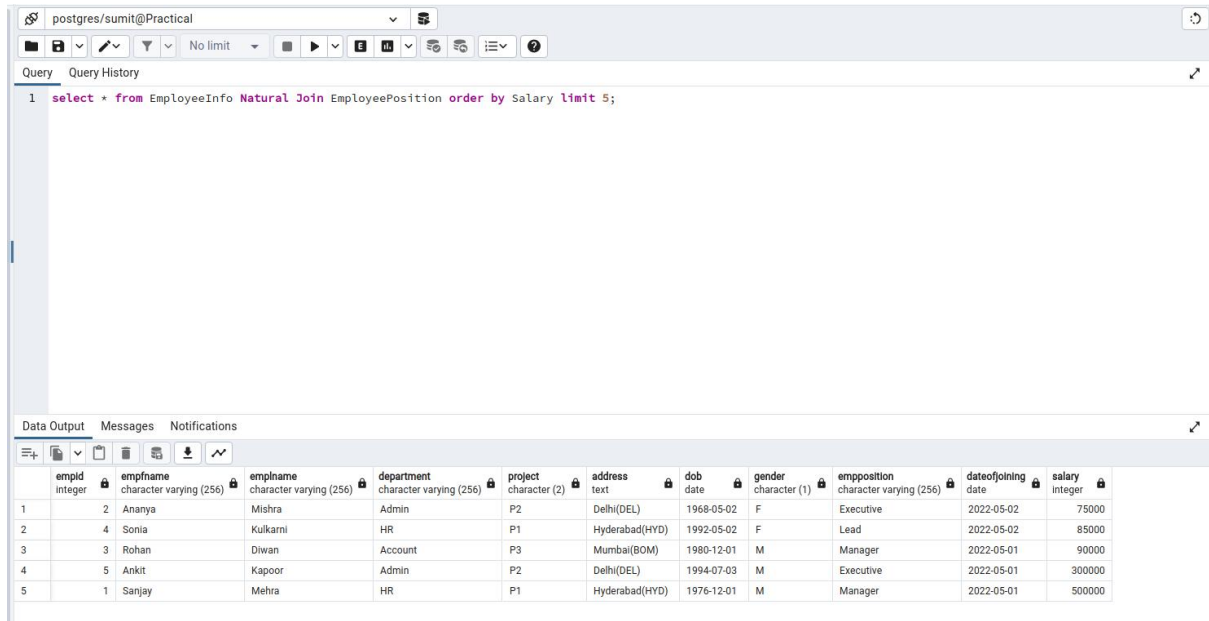
```

Data Output Messages Notifications



	empname text
1	Sanjay Mehra
2	Sonia Kulkarni

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



The screenshot shows a PostgreSQL query editor interface. The query entered is: `select * from EmployeeInfo Natural Join EmployeePosition order by Salary limit 5;`. The results are displayed in a table with 10 columns: empid, empname, empline, department, project, address, dob, gender, empposition, dateofjoining, and salary. The results are ordered by salary in descending order, showing the top 5 records.

	empid integer	empname character varying (256)	empline character varying (256)	department character varying (256)	project character (2)	address text	dob date	gender character (1)	empposition character varying (256)	dateofjoining date	salary integer
1	2	Ananya	Mishra	Admin	P2	Delhi(DEL)	1968-05-02	F	Executive	2022-05-02	75000
2	4	Sonia	Kulkarni	HR	P1	Hyderabad(HYD)	1992-05-02	F	Lead	2022-05-02	85000
3	3	Rohan	Diwan	Account	P3	Mumbai(BOM)	1980-12-01	M	Manager	2022-05-01	90000
4	5	Ankit	Kapoor	Admin	P2	Delhi(DEL)	1994-07-03	M	Executive	2022-05-01	300000
5	1	Sanjay	Mehra	HR	P1	Hyderabad(HYD)	1976-12-01	M	Manager	2022-05-01	500000

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



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Query History

```
1 select * from EmployeeInfo where EmpFname not in ('Sanjay', 'Sonia');
```

Data Output Messages Notifications

	empid [PK] integer	empfname character varying (256)	emphname character varying (256)	department character varying (256)	project character (2)	address text	dob date	gender character (1)
1	2	Ananya	Mishra	Admin	P2	Delhi(DEL)	1968-05-02	F
2	3	Rohan	Diwan	Account	P3	Mumbai(BOM)	1980-12-01	M
3	5	Ankit	Kapoor	Admin	P2	Delhi(DEL)	1994-07-03	M

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

The screenshot shows a PostgreSQL query editor interface. The top bar indicates the user is 'postgres/sumit@Practical'. Below the toolbar, the 'Query' tab is active, displaying the following SQL query:

```
1 select count (EmpID) Dept, Department
2   from EmployeeInfo
3   Group by Department
4   Order by Dept
```

The 'Data Output' tab is also visible, showing the results of the query in a table format:

	dept bigint	department character varying (256)
1	1	Account
2	2	Admin
3	2	HR

8. Create indexing for any particular field and show the difference in data fetching before and after indexing.  
(Use External Database)

Before Indexing :

postgres/sumit@Practical

Query Query History

```
1 select * from EmployeeInfo where Department = 'HR';
```

Data Output Messages Notifications

	empid [PK] integer	empfname character varying (256)	emplname character varying (256)	department character varying (256)	project character (2)	address text	dob date
1	1	Sanjay	Mehra	HR	P1	Hyderabad(HYD)	1976-12-01
2	4	Sonia	Kulkarni	HR	P1	Hyderabad(HYD)	1992-05-02

After Indexing :

pgAdmin 4

postgres/sumit@Practical

postgres/sumi...

PropertiesSQLStatisticsDependenciesDependentsProcesses

postgres/sumit@Practicalpostgres/sumi...

Query Query History

1 select \* from EmployeeInfo where Department = 'HR';

Data OutputMessagesNotifications

	empid [PK] integer	empfname character varying (256)	emplname character varying (256)	department character varying (256)	project character (2)	address text	dob date
1	1	Sanjay	Mehra	HR	P1	Hyderabad(HYD)	1976-12-01
2	4	Sonia	Kulkarni	HR	P1	Hyderabad(HYD)	1992-05-02

Total rows: 2 of 2Query complete 00:00:00.056Ln 1, Col 52