Suman Paudel (33)

Assignment IV

Lab 4:

Prepare Lab Sheet of MYSQL Statements for following.

1. Create tables Teacher (Id INT PRIMARY KEY, Tname VARCHAR(20)) and Student (id INT PRIMARY KEY, Sname VARCHAR(20));

SQL Script:

```
CREATE TABLE Teacher (
    Id INT PRIMARY KEY,
    Tname VARCHAR(20)
);

CREATE TABLE Student (
    Id INT PRIMARY KEY,
    Sname VARCHAR(20)
);
```

Output:

```
suman_33_company=# CREATE TABLE Teacher (
    Id INT PRIMARY KEY,
    Tname VARCHAR(20)
);
CREATE TABLE Student (
    Id INT PRIMARY KEY,
    Sname VARCHAR(20)
);
CREATE TABLE
CREATE TABLE
suman_33_company=#
```

2. Insert values like {("1,"Ram"), (2,"Hari"), (3,"Sita")} in Teacher and {("2,"Hari"), (3,"Sita"), (4,"Gita")} in Student.

SQL Script:

```
INSERT INTO Teacher (Id, Tname) VALUES
    (1, 'Ram'),
    (2, 'Hari'),
    (3, 'Sita');

INSERT INTO Student (Id, Sname) VALUES
    (2, 'Hari'),
    (3, 'Sita'),
    (4, 'Gita');
```

Output:

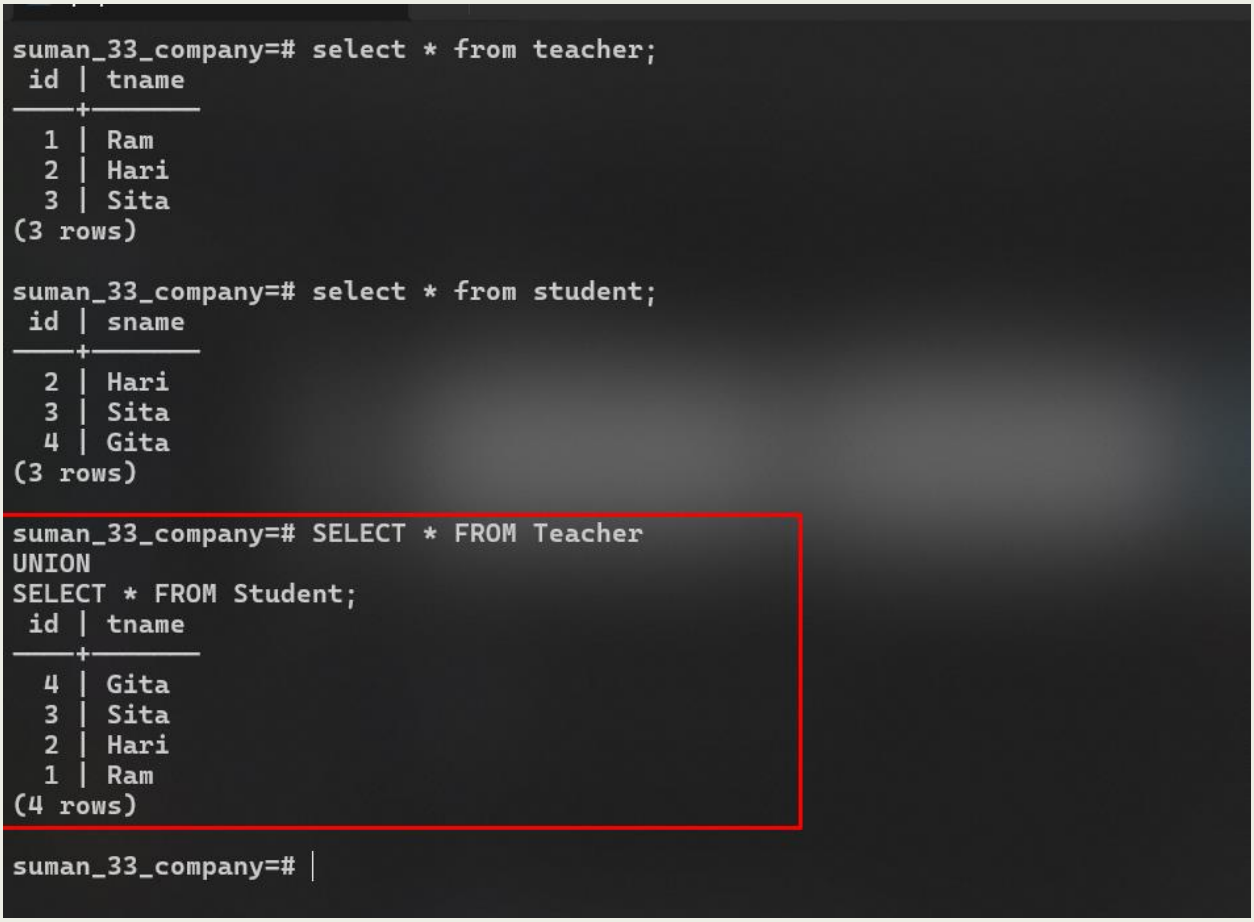
```
suman_33_company=# INSERT INTO Teacher (Id, Tname) VALUES
    (1, 'Ram'),
    (2, 'Hari'),
    (3, 'Sita');

INSERT INTO Student (Id, Sname) VALUES
    (2, 'Hari'),
    (3, 'Sita'),
    (4, 'Gita');
INSERT 0 3
INSERT 0 3
suman_33_company=#
```

3. Write query to find Union of Teacher and Student.

SQL Script:

```
SELECT * FROM Teacher
UNION
SELECT * FROM Student;
```

Output:



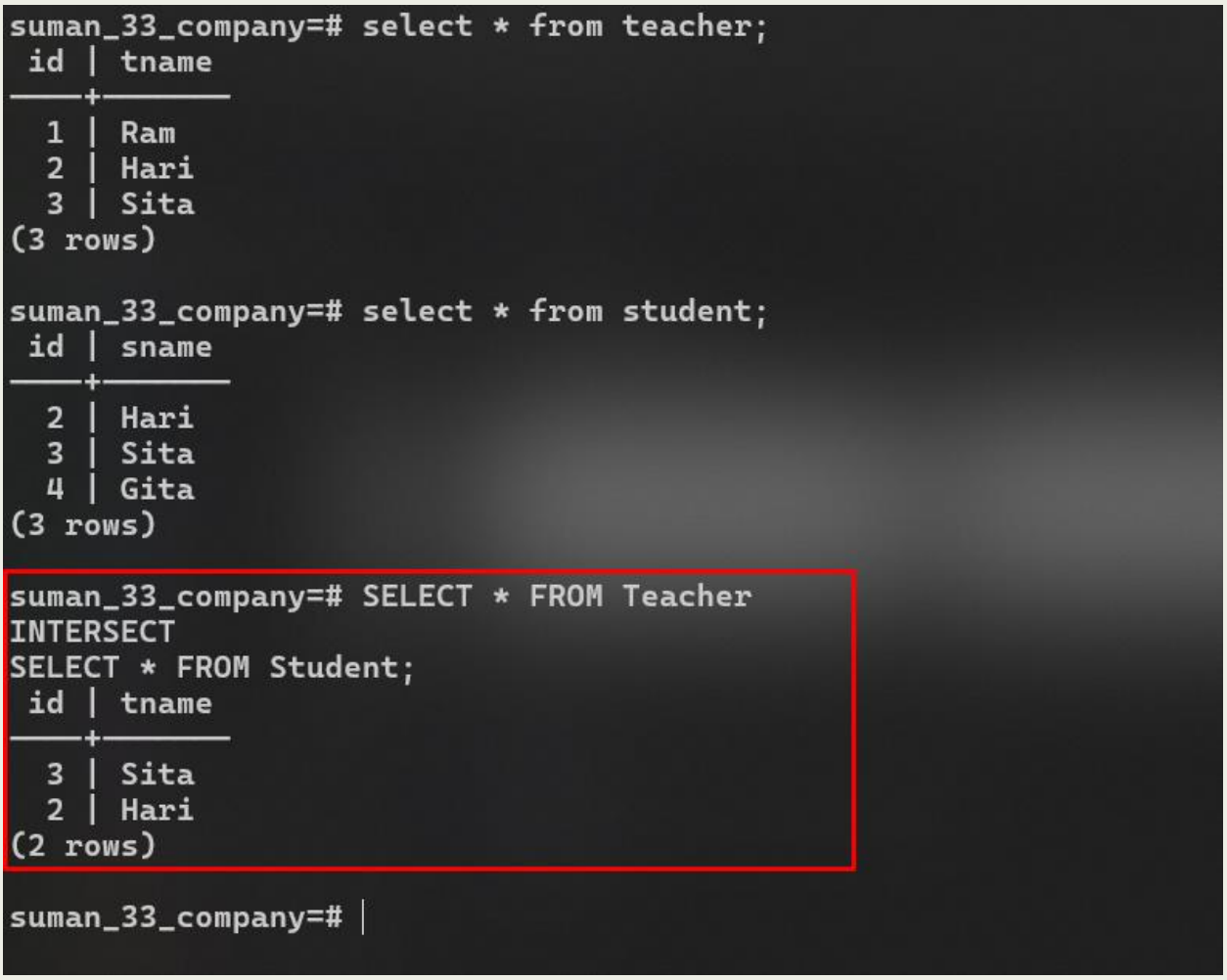
```
suman_33_company=# select * from teacher;
 id | tname
----+-------
  1 | Ram
  2 | Hari
  3 | Sita
(3 rows)

suman_33_company=# select * from student;
 id | sname
----+-------
  2 | Hari
  3 | Sita
  4 | Gita
(3 rows)

suman_33_company=# SELECT * FROM Teacher
UNION
SELECT * FROM Student;
 id | tname
----+-------
  4 | Gita
  3 | Sita
  2 | Hari
  1 | Ram
(4 rows)

suman_33_company=#
```

4. Write query to find Intersection of Teacher and Student.

SQL Script:

```
SELECT * FROM Teacher
INTERSECT
SELECT * FROM Student;
```

Output:

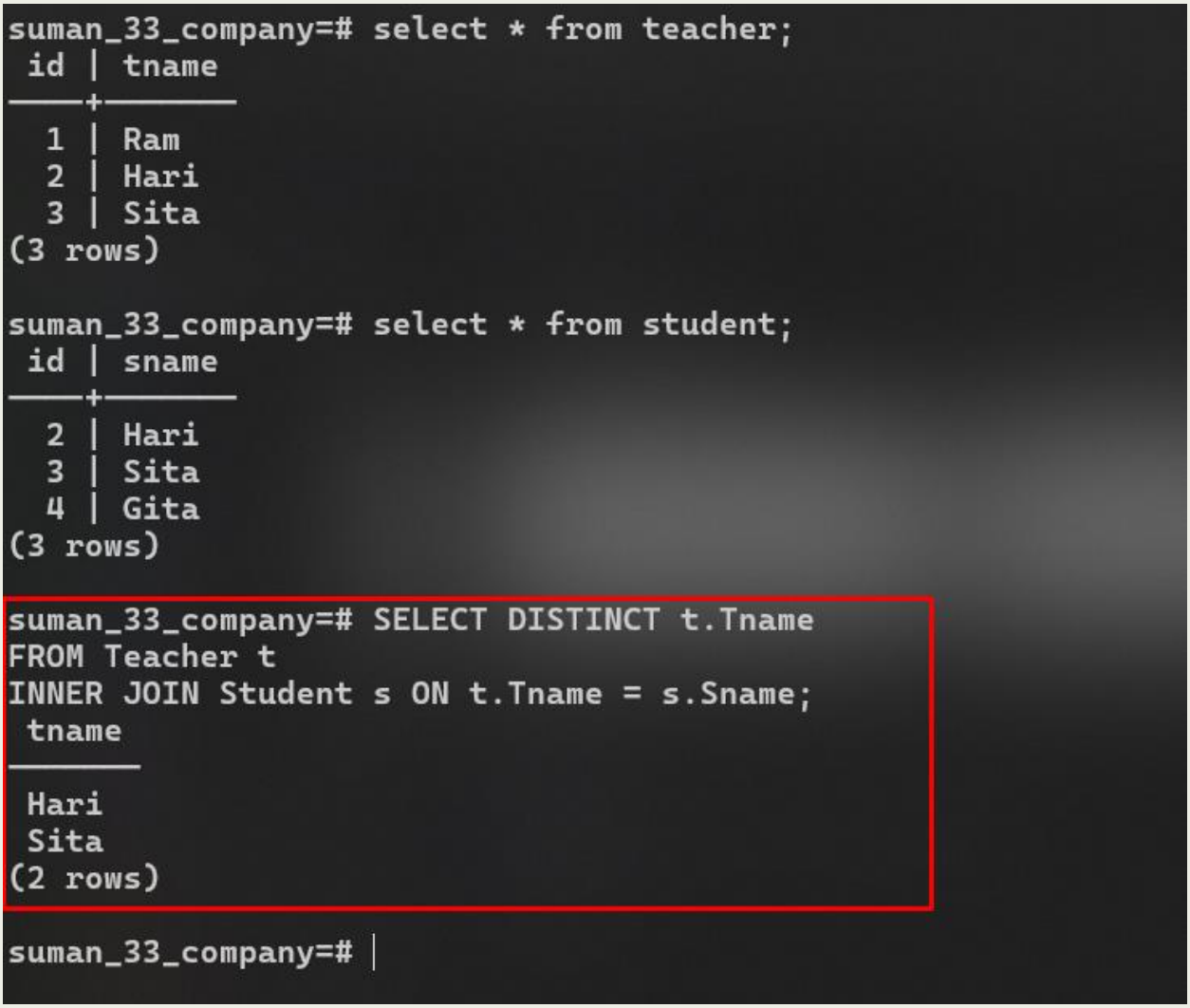


5. Write query to find intersection of names Teacher and Student using Distinct and Inner Join.

SQL Script For Left Join:

```
SELECT DISTINCT t.Tname
FROM Teacher t
INNER JOIN Student s ON t.Tname = s.Sname;
```

Output:


suman_33_company=# select * from teacher;
 id | tname
----+-------
  1 | Ram
  2 | Hari
  3 | Sita
(3 rows)
suman_33_company=# select * from student;
 id | sname
----+-------
  2 | Hari
  3 | Sita
  4 | Gita
(3 rows)
suman_33_company=# SELECT DISTINCT t.Tname
FROM Teacher t
INNER JOIN Student s ON t.Tname = s.Sname;
 tname

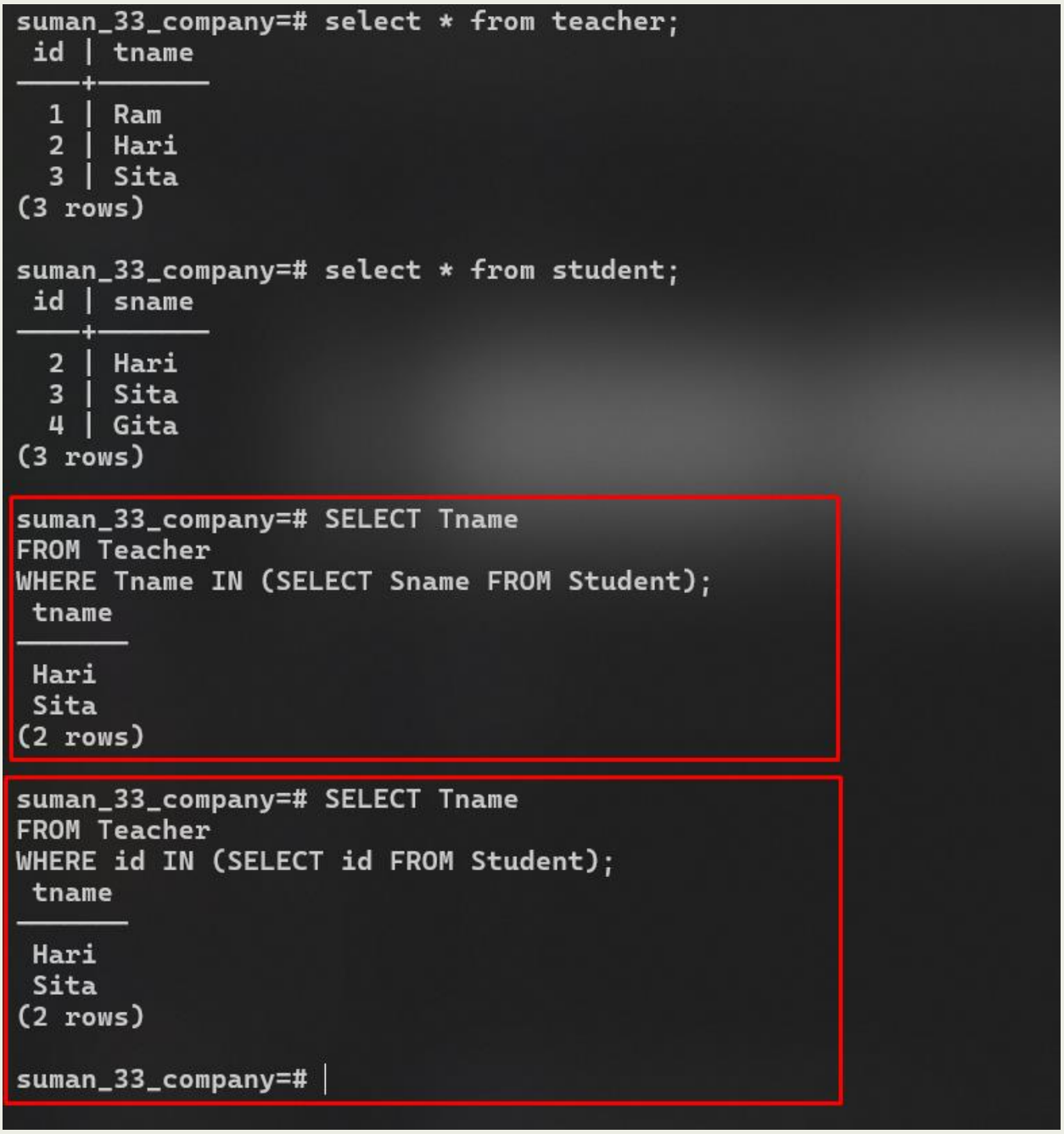
 Hari
 Sita
(2 rows)
suman_33_company=#

6. Write query to find intersection of names Teacher and Student using IN and Sub query.

SQL Script:

```
SELECT Tname
FROM Teacher
WHERE Tname IN (SELECT Sname FROM Student);
```

Output:

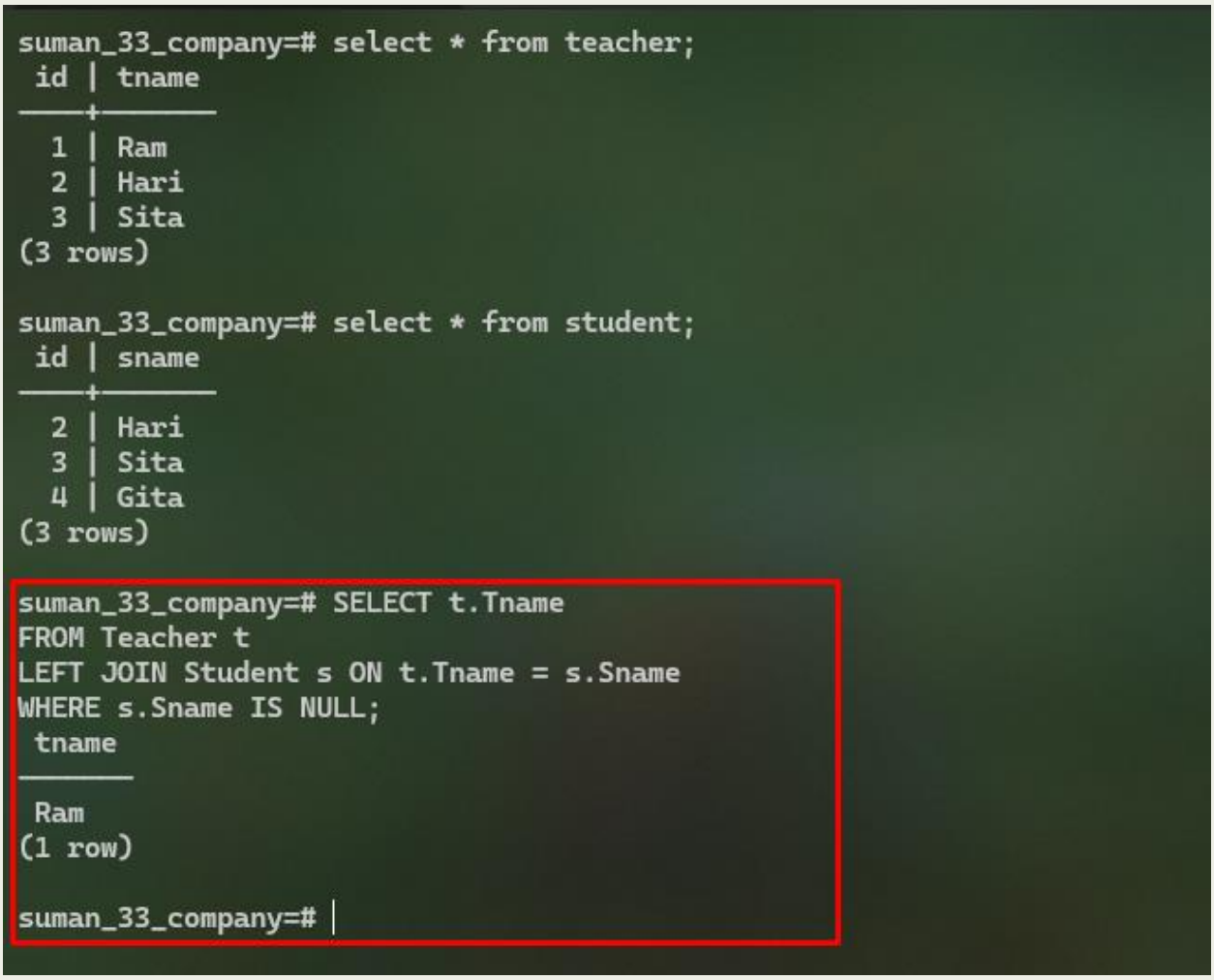


7. Write query to find Teacher MINUS Student using Left Join.

SQL Script:

```
SELECT t.Tname
FROM Teacher t
LEFT JOIN Student s ON t.Tname = s.Sname
WHERE s.Sname IS NULL;
```

Output:



8. Find the number of offices in the Office table from the COMPANY Database in Lab-1 using COUNT function.

SQL Script:

```
SELECT COUNT(*) AS num_offices
FROM Office;
```

Output:

```
suman_33_company=# select * from office;
 onumber |      oname       | country
---------+------------------+---------
       1 | Suman_Office_33  | Nepal
       3 | Prabhat Ale      | USA
       4 | Anish Thapaliya  | India
       5 | Gaurav Pandey    | Japan
       2 | Ntc_Suman_33     | Nepal
(5 rows)

suman_33_company=# SELECT COUNT(*) AS num_offices
FROM Office;
 num_offices
-------------
           5
(1 row)

suman_33_company=#
```

9. Write a query to count the distinct names of Employees.

SQL Script:

```
SELECT COUNT(DISTINCT Ename) AS distinct_names
FROM Employee;
```

Output:

```
suman_33_company=# select * from employee;
 ssn |          ename           | gender |   bdate    |     address      |  salary  | ono | years_of_experience | marital_status
-----+--------------------------+--------+------------+------------------+----------+-----+---------------------+----------------
  33 | Suman Paudel             | M      | 1997-10-22 | Kathmanu, Nepal  | 30000.00 |   1 |                   3 | Single
   1 | Rekha Thapa              | F      | 1992-03-22 | Kathmandu, Nepal | 55000.00 |   2 |                   5 | Married
   2 | KP Oli                   | M      | 1978-11-08 | Bhaktapur, Nepal | 72000.00 |   3 |                  12 | Married
   3 | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal  | 48000.00 |   4 |                   3 | Married
   4 | Rabi Lamichane           | M      | 1983-04-30 | Chitwan, Nepal   | 60000.00 |   4 |                   7 | Divorced
(5 rows)

suman_33_company=# SELECT COUNT(DISTINCT Ename) AS distinct_names
FROM Employee;
 distinct_names
----------------
              5
(1 row)

suman_33_company=#
```

10. Write a query to find sum of salary of Employees.

SQL Script:

```
SELECT SUM(Salary) AS total_salary
FROM Employee;
```

Output:

```
suman_33_company=# select * from employee;
 ssn |           ename            | gender |   bdate    |     address      |  salary  | ono | years_of_experience | marital_status
-----+----------------------------+--------+------------+------------------+----------+-----+---------------------+----------------
  33 | Suman Paudel               | M      | 1997-10-22 | Kathmanu, Nepal  | 30000.00 |   1 |                   3 | Single
   1 | Rekha Thapa                | F      | 1992-03-22 | Kathmandu, Nepal | 55000.00 |   2 |                   5 | Married
   2 | KP Oli                     | M      | 1978-11-08 | Bhaktapur, Nepal | 72000.00 |   3 |                  12 | Married
   3 | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal  | 48000.00 |   4 |                   3 | Married
   4 | Rabi Lamichane             | M      | 1983-04-30 | Chitwan, Nepal   | 60000.00 |   4 |                   7 | Divorced
(5 rows)

suman_33_company=# SELECT SUM(Salary) AS total_salary FROM Employee;
 total_salary
--------------
    265000.00
(1 row)

suman_33_company=#
```

11. Write a query to find average of salary of Employees.

SQL Script:

```
SELECT AVG(Salary) AS avg_salary
FROM Employee;
```

Output:

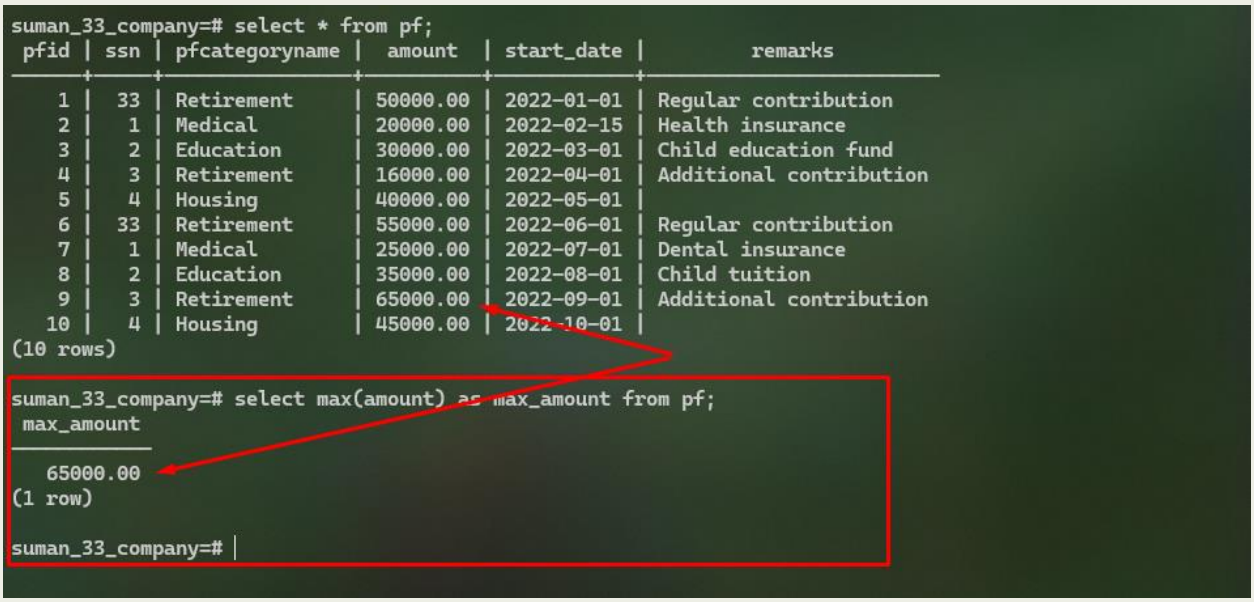
```
suman_33_company=# select * from employee;
 ssn |           ename            | gender |   bdate    |     address      |  salary  | ono | years_of_experience | marital_status
-----+----------------------------+--------+------------+------------------+----------+-----+---------------------+----------------
  33 | Suman Paudel               | M      | 1997-10-22 | Kathmanu, Nepal  | 30000.00 |   1 |                   3 | Single
   1 | Rekha Thapa                | F      | 1992-03-22 | Kathmandu, Nepal | 55000.00 |   2 |                   5 | Married
   2 | KP Oli                     | M      | 1978-11-08 | Bhaktapur, Nepal | 72000.00 |   3 |                  12 | Married
   3 | Puspa Kamal Dahal Pracanda | M      | 1990-09-01 | Lalitpur, Nepal  | 48000.00 |   4 |                   3 | Married
   4 | Rabi Lamichane             | M      | 1983-04-30 | Chitwan, Nepal   | 60000.00 |   4 |                   7 | Divorced
(5 rows)

suman_33_company=# SELECT ROUND(AVG(Salary)) AS avg_salary FROM Employee;
 avg_salary
------------
      53000
(1 row)

suman_33_company=#
```

12. Write a query to find Maximum PF Amount from the PF Table.

SQL Script:

```
SELECT MAX(PFAmount) AS max_pf_amount
FROM PF;
```

Output:



13. Write a query to find Minimum PF Amount from the PF Table.

SQL Script:

```
SELECT MIN(PFAmount) AS min_pf_amount
FROM PF;
```

Output: