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));
   Ans:
   Query:

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

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

   Result:
   mysql> desc Teacher;

```
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| Id    | int         | NO   | PRI | NULL    |       |
| Tname | varchar(20) | YES  |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
2 rows in set (0.04 sec)
```

   mysql> desc Student;

```
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| Id    | int         | NO   | PRI | NULL    |       |
| Sname | varchar(20) | YES  |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)
```

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

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

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

Result:

```
mysql> select *from teacher;
+----+-------+
| Id | Tname |
+----+-------+
|  1 | Ram   |
|  2 | Hari  |
|  3 | Sita  |
+----+-------+
3 rows in set (0.00 sec)

mysql> select *from Student;
+----+-------+
| Id | Sname |
+----+-------+
|  2 | Hari  |
|  3 | Sita  |
|  4 | Gita  |
+----+-------+
3 rows in set (0.00 sec
```

3. Write query to find names of Union of Teacher and Student.
   Ans:
   Query:
   SELECT Tname FROM Teacher UNION SELECT Sname FROM Student;
   Result:

```
+-------+
| Tname |
+-------+
| Ram   |
| Hari  |
| Sita  |
| Gita  |
+-------+
4 rows in set (0.01 sec)
```

4. Write query to find intersection of names Teacher and Student using Distinct and Inner Join
   Ans:
   Query:
   SELECT DISTINCT T.Tname FROM Teacher T INNER JOIN Student S ON T.Tname = S.Sname;
   Result:

```
+-------+
| Tname |
+-------+
| Hari  |
| Sita  |
```

```
+-------+
2 rows in set (0.02 sec)
```

5. Write query to find intersection of names Teacher and Student using IN and Sub query
   Ans:
   Query:
   SELECT Tname FROM Teacher WHERE Tname IN (SELECT Sname FROM Student);

   Result:
   ```
   +-------+
   | Tname |
   +-------+
   | Hari  |
   | Sita  |
   +-------+
   2 rows in set (0.01 sec)
   ```
6. Write query to find Teacher MINUS Student using Left Join
   Ans:
   Query:
   SELECT T.Tname FROM Teacher T LEFT JOIN Student S ON T.Tname = S.Sname WHERE S.Sname IS NULL;

   Result:
   ```
   +-------+
   | Tname |
   +-------+
   | Ram   |
   +-------+
   1 row in set (0.01 sec
   ```
7. Find the number of offices in the Office table from the COMPANY Database in Lab-1 using COUNT function.
   Ans:
   Query:
   SELECT COUNT(*) AS office_count FROM Office;

   Result:
   ```
   +--------------+
   | office_count |
   +--------------+
   |            5 |
   +--------------+
   1 row in set (0.06 sec)
   ```
8. Write a query to count the distinct names of Employees.
   Ans:
   Query:
   SELECT COUNT(DISTINCT Ename) AS distinct_name_count FROM Employee;

   Result:

```
+---------------------+
| distinct_name_count |
+---------------------+
|                   5 |
+---------------------+
1 row in set (0.01 sec)
```

9. Write a query to find sum of salary of Employees.
   Ans:
   Query:
   SELECT SUM(Salary) AS total_salary FROM Employee;

   Result:

```
+--------------+
| total_salary |
+--------------+
|    200000.00 |
+--------------+
1 row in set (0.00 sec)
```

10. Write a query to find average of salary of Employees.
    Ans:
    Query:
    SELECT AVG(Salary) AS average_salary FROM Employee;
    Result:

```
+----------------+
| average_salary |
+----------------+
|   40000.000000 |
+----------------+
1 row in set (0.00 sec)
```

11. Write a query to find Maximum PF Amount from the PF Table.
    Ans:
    Query:
    SELECT MAX(Amount) AS max_pf_amount FROM PF;

    Result:

```
+---------------+
| max_pf_amount |
+---------------+
|       5000.00 |
+---------------+
1 row in set (0.04 sec)
```

12. Write a query to find Minimum PF Amount from the PF Table.
    Ans:
    Query:
    SELECT MIN(Amount) AS min_pf_amount FROM PF;

Result:

```
+---------------+
| min_pf_amount |
+---------------+
|       1000.00 |
+---------------+
1 row in set (0.00 sec)
```