LAB-3

Prepare Lab Sheet of MYSQL Statements for following. Use the Company Database in Lab-1 and Lab-2.

1. Select the names of employees and their dependents without using JOIN.
   Ans:
   Query:
   mysql> SELECT E.Ename AS EmployeeName, D.Dname AS DependentName FROM Employee E, Dependents D WHERE E.SSN = D.SSN;
   Result:

```
+--------------+---------------+
| EmployeeName | DependentName |
+--------------+---------------+
| SuraJ        | himesh        |
| SuraJ        | yam           |
| hari         | sima          |
| Ram          | krinjal       |
| Sita         | basu          |
+--------------+---------------+
```

   5 rows in set (0.00 sec)
2. Select the names of employees and their dependents without using INNER JOIN and order the result based on dependents name.
   Ans:
   Query:
   mysql> SELECT E.Ename AS EmployeeName, D.Dname AS DependentName FROM Employee E, Dependents D WHERE E.SSN = D.SSN ORDER BY D.Dname;
   Result:

```
+--------------+---------------+
| EmployeeName | DependentName |
+--------------+---------------+
| Sita         | basu          |
| SuraJ        | himesh        |
| Ram          | krinjal       |
| hari         | sima          |
| SuraJ        | yam           |
+--------------+---------------+
```

   5 rows in set (0.00 sec)

3. Use JOIN between Employee, Project and Works_on and retrieve the name of employees and the projects on which they work.
   Ans:
   Query:
   SELECT E.Ename AS EmployeeName, P.Pname AS ProjectName FROM Employee E JOIN Works_on W ON E.SSN = W.ESSN JOIN Project P ON W.PNO = P.Pnumber;

Result:

```
+--------------+-------------------+
| EmployeeName | ProjectName       |
+--------------+-------------------+
| SuraJ        | Hari_ProjMDS      |
| hari         | Sita_ProjMDS      |
| Ram          | pratiksha_ProjMDS |
| Sita         | Ram_ProjMDS       |
| pratiksha    | Suraj_ProjMDS     |
+--------------+-------------------+
5 rows in set (0.01 sec)
```

4. Use Inner join between Employee and PF table with the join condition, Employee.SSN=PF.SSN and Employee.Salary>PF.Amount

   Ans:

   Query:

   mysql> SELECT E.Ename, PF.PFCategoryName FROM Employee E INNER JOIN PF ON E.SSN = PF.SSN WHERE E.Salary > PF.Amount;

   Result:

```
+-----------+----------------+
| Ename     | PFCategoryName |
+-----------+----------------+
| SuraJ     | Category 1     |
| SuraJ     | Category 1     |
| hari      | Category 2     |
| hari      | Category 2     |
| Ram       | Category 3     |
| Ram       | Category 3     |
| Sita      | Category 4     |
| Sita      | Category 4     |
| pratiksha | Category 5     |
| pratiksha | Category 5     |
+-----------+----------------+
10 rows in set (0.00 sec)
```

5. Write a query to show the results of Left and Right Join between Office and Project.

   Ans:

   Query:

   Left join:

   mysql> SELECT *FROM Office LEFT JOIN Project ON Office.Onumber = Project.Onumber;

   right join:

   mysql> SELECT * FROM Office RIGHT JOIN Project ON Office.Onumber = Project.Onumber;

   Result:

```
+---------+----------------+-----------+---------+------------------+--------------+---------+
| Onumber | Oname          | Country   | Pnumber | Pname            | Proj_location | Onumber |
+---------+----------------+-----------+---------+------------------+--------------+---------+
|       1 | Suraj_Office_38 | USA      |      76 | Suraj_ProjMDS    | lalitpur     |       1 |
|       2 | Suraj_ntc_38    | UK       |      20 | Hari_ProjMDS     | bhaktapur    |       2 |
|       3 | hari_Office_06  | Nepal    |      21 | Sita_ProjMDS     | australia    |       3 |
|       4 | Ram_Ncell_06    | china    |      22 | pratiksha_ProjMDS | bhaktapur    |       4 |
|       5 | Sita_Ncell_06   | australia |     23 | Ram_ProjMDS      | ktm-2        |       5 |
+---------+----------------+-----------+---------+------------------+--------------+---------+
5 rows in set (0.01 sec)
```

RightJoin:

```
+---------+----------------+-----------+---------+------------------+--------------+---------+
| Onumber | Oname          | Country   | Pnumber | Pname            | Proj_location | Onumber |
+---------+----------------+-----------+---------+------------------+--------------+---------+
|       2 | Suraj_ntc_38    | UK       |      20 | Hari_ProjMDS     | bhaktapur    |       2 |
|       3 | hari_Office_06  | Nepal    |      21 | Sita_ProjMDS     | australia    |       3 |
|       4 | Ram_Ncell_06    | china    |      22 | pratiksha_ProjMDS | bhaktapur    |       4 |
|       5 | Sita_Ncell_06   | australia |     23 | Ram_ProjMDS      | ktm-2        |       5 |
|       1 | Suraj_Office_38 | USA      |      76 | Suraj_ProjMDS    | lalitpur     |       1 |
+---------+----------------+-----------+---------+------------------+--------------+---------+
5 rows in set (0.00 sec)
```

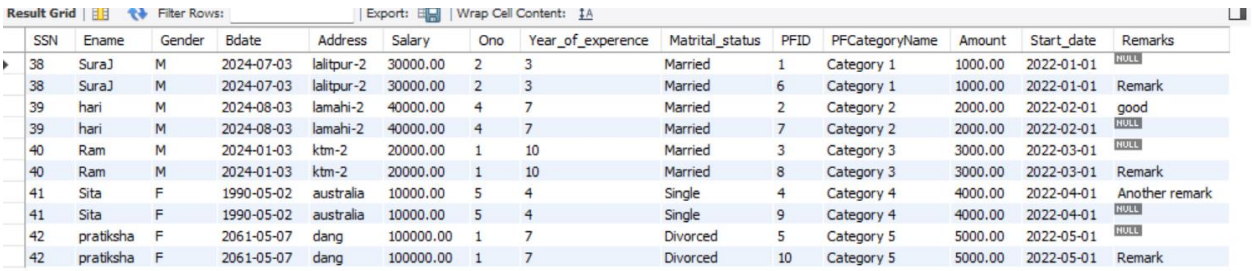
6. Write a query to show the results of Cross Join between Employee and PF tables.
   Ans:
   Query:
   mysql> SELECT *FROM Employee CROSS JOIN PF;

   Result:

SSN	Ename	Gender	Bdate	Address	Salary	Ono	Year_of_experence	Matrital_status	PFID	SSN	PFCategoryName	Amount	Start_date	Remarks
41	Sita	F	1990-05-02	australia	10000.00	5	4	Single	3	40	Category 3	3000.00	2022-03-01	NULL
40	Ram	M	2024-01-03	ktm-2	20000.00	1	10	Married	3	40	Category 3	3000.00	2022-03-01	NULL
39	hari	M	2024-08-03	lamahi-2	40000.00	4	7	Married	3	40	Category 3	3000.00	2022-03-01	NULL
38	SuraJ	M	2024-07-03	lalitpur-2	30000.00	2	3	Married	3	40	Category 3	3000.00	2022-03-01	NULL
42	pratiksha	F	2061-05-07	dang	100000.00	1	7	Divorced	4	41	Category 4	4000.00	2022-04-01	Anothe...
41	Sita	F	1990-05-02	australia	10000.00	5	4	Single	4	41	Category 4	4000.00	2022-04-01	Anothe...
40	Ram	M	2024-01-03	ktm-2	20000.00	1	10	Married	4	41	Category 4	4000.00	2022-04-01	Anothe...
39	hari	M	2024-08-03	lamahi-2	40000.00	4	7	Married	4	41	Category 4	4000.00	2022-04-01	Anothe...
38	SuraJ	M	2024-07-03	lalitpur-2	30000.00	2	3	Married	4	41	Category 4	4000.00	2022-04-01	Anothe...
42	pratiksha	F	2061-05-07	dang	100000.00	1	7	Divorced	5	42	Category 5	5000.00	2022-05-01	NULL
41	Sita	F	1990-05-02	australia	10000.00	5	4	Single	5	42	Category 5	5000.00	2022-05-01	NULL
40	Ram	M	2024-01-03	ktm-2	20000.00	1	10	Married	5	42	Category 5	5000.00	2022-05-01	NULL
39	hari	M	2024-08-03	lamahi-2	40000.00	4	7	Married	5	42	Category 5	5000.00	2022-05-01	NULL
38	SuraJ	M	2024-07-03	lalitpur-2	30000.00	2	3	Married	5	42	Category 5	5000.00	2022-05-01	NULL
42	pratiksha	F	2061-05-07	dang	100000.00	1	7	Divorced	6	38	Category 1	1000.00	2022-01-01	Remark

   50 rows in set (0.02 sec)
7. Show results of using natural join between Employee and PF.
   Ans:
   Query:
   SELECT *FROM Employee NATURAL JOIN PF;

Result:



SSN	Ename	Gender	Bdate	Address	Salary	Ono	Year_of_experence	Matrital_status	PFID	PFCategoryName	Amount	Start_date	Remarks
38	SuraJ	M	2024-07-03	lalitpur-2	30000.00	2	3	Married	1	Category 1	1000.00	2022-01-01	NULL
38	SuraJ	M	2024-07-03	lalitpur-2	30000.00	2	3	Married	6	Category 1	1000.00	2022-01-01	Remark
39	hari	M	2024-08-03	lamahi-2	40000.00	4	7	Married	2	Category 2	2000.00	2022-02-01	good
39	hari	M	2024-08-03	lamahi-2	40000.00	4	7	Married	7	Category 2	2000.00	2022-02-01	NULL
40	Ram	M	2024-01-03	ktm-2	20000.00	1	10	Married	3	Category 3	3000.00	2022-03-01	NULL
40	Ram	M	2024-01-03	ktm-2	20000.00	1	10	Married	8	Category 3	3000.00	2022-03-01	Remark
41	Sita	F	1990-05-02	australia	10000.00	5	4	Single	4	Category 4	4000.00	2022-04-01	Another remark
41	Sita	F	1990-05-02	australia	10000.00	5	4	Single	9	Category 4	4000.00	2022-04-01	NULL
42	pratiksha	F	2061-05-07	dang	100000.00	1	7	Divorced	5	Category 5	5000.00	2022-05-01	NULL
42	pratiksha	F	2061-05-07	dang	100000.00	1	7	Divorced	10	Category 5	5000.00	2022-05-01	Remark

8. Find the number of employees and status in each status of “Married”, “Single”, “Divorced”. Use the COUNT function with the GROUP BY clause with status.
   Ans:
   Query:
   mysql> SELECT Marital_status, COUNT(*) AS Count FROM employee GROUP BY Marital_status;
   Result:

```
+----------------+-------+
| Marital_status | Count |
+----------------+-------+
| Married        |     3 |
| Single         |     1 |
| Divorced       |     1 |
+----------------+-------+
3 rows in set (0.00 sec)
```

9. Find the number of employees and status in each status of “Married” OR “Single”. Use the COUNT function with the GROUP BY clause with status and Having clause with status = “Married” OR “Single”
   Ans:
   Query:
   mysql> SELECT Marital_status, COUNT(*) AS Count FROM Employee GROUP BY Marital_status HAVING Marital_status = 'Married' OR Marital_status = 'Single';

   Result:

```
+----------------+-------+
| Marital_status | Count |
+----------------+-------+
| Married        |     3 |
| Single         |     1 |
+----------------+-------+
2 rows in set (0.01 sec)
```

10. Using sub query, select the name and location of projects whose Onumber is in the Onumber of the offices located in country Nepal and India.
    Ans:
    Query:

```
SELECT P.Pname, P.Proj_location FROM Project P WHERE P.Onumber IN (
   SELECT O.Onumber
```

```
    FROM Office O
    WHERE O.Country IN ('Nepal', 'India')
);
```

Result:

```
+--------------+---------------+
| Pname        | Proj_location |
+--------------+---------------+
| Sita_ProjMDS | australia     |
+--------------+---------------+
1 row in set (0.00 sec)
```