Lab-2 DMl Statement

1. Insert at least 5 tuples in each of the tables of the Yourname_Roll_COMPANY database in LAB-1
   Ans: Already I have inserted 5 tuple in lab-1 , following are the tables with values shown below.
   mysql> select * from office;

```
+---------+----------------+-----------+
| Onumber | Oname          | Country   |
+---------+----------------+-----------+
|       1 | Suraj_Office_38 | USA       | |
2 | Suraj_ntc_38    | UK        |
|       3 | hari_Office_06  | Nepal     |
|       4 | Ram_Ncell_06    | china     |
|       5 | Sita_Ncell_06   | australia |
+---------+----------------+-----------+
```

   mysql> select * from employee;

```
+-----+-----------+--------+------------+------------+-----------+------+------------------+
| SSN | Ename     | Gender | Bdate      | Address    | Salary    | Ono  | Year_of_experence |
+-----+-----------+--------+------------+------------+-----------+------+------------------+
|  38 | SuraJ     | M      | 2024-07-03 | lalitpur-2 |  30000.00 |    2 |              3 |
|  39 | hari      | M      | 2024-08-03 | lamahi-2   |  40000.00 |    4 |              7 |
|  40 | Ram       | M      | 2024-01-03 | ktm-2      |  20000.00 |    1 |             10 | |
41 | Sita      | F      | 1990-05-02 | australia  |  10000.00 |    5 |              4 |
|  42 | pratiksha | F      | 2061-05-07 | dang       | 100000.00 |    1 |              7 |
+-----+-----------+--------+------------+------------+-----------+------+------------------+
```

   mysql> select * from dependents;

```
+-----+---------+------+------+-----------+
| Did | Dname   | Dage | SSN  | Drelation |
+-----+---------+------+------+-----------+
|   1 | himesh  |   15 |   38 | brother   |
|   2 | yam     |   15 |   38 | mother    |
|   3 | sima    |   10 |   39 | sister    |
|   4 | krinjal |    5 |   40 | brother   |
|   5 | basu    |   14 |   41 | cousin    |
+-----+---------+------+------+-----------+
```

   mysql> select *from works_on;

```
+------+------+
| ESSN | Pno  |
+------+------+
|   38 |   20 |
|   39 |   21 |
|   40 |   22 |
|   41 |   23 |
|   42 |   76 |
+------+------+
5 rows in set (0.00 sec)

mysql> select *from project;
+---------+------------------+---------------+---------+
| Pnumber | Pname            | Proj_location | Onumber |
+---------+------------------+---------------+---------+
|      20 | Hari_ProjMDS     | bhaktapur     |       2 |
|      21 | Sita_ProjMDS     | australia     |       3 |
|      22 | pratiksha_ProjMDS | bhaktapur     |       4 |
|      23 | Ram_ProjMDS      | ktm-2         |       5 |
|      76 | Suraj_ProjMDS    | lalitpur      |       1 |
+---------+------------------+---------------+---------+
5 rows in set (0.00 sec)
```

2. In the database Yourname_Roll_COMPANY in LAB-1, Create a table PF(PFID, SSN, PFCategoryName, Amount, Start_date, Remarks); where SSN is foreign key referencing Employee. The start date should be of date type.

Ans:

Query:

```
CREATE TABLE PF (
  PFID int NOT NULL AUTO_INCREMENT PRIMARY KEY,
  SSN int,
  PFCategoryName varchar(255),
  Amount decimal(10,2),
  Start_date date,
  Remarks varchar(255),
  FOREIGN KEY (SSN) REFERENCES Employee(SSN)
) engine=innodb;
```

Result:

```
mysql>desc pf;
```

```
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| PFID          | int          | NO   | PRI | NULL    | auto_increment |
| SSN           | int          | YES  | MUL | NULL    |                |
| PFCategoryName | varchar(255) | YES  |     | NULL    |                |
| Amount        | decimal(10,2) | YES  |     | NULL    |                |
| Start_date    | date         | YES  |     | NULL    |                |
| Remarks       | varchar(255) | YES  |     | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+ 6
rows in set (0.01 sec)
```

3. In the database Yourname_Roll_COMPANY in LAB-1, alter the table Employee and add an attribute Matrital_status of type varchar. Update the records in the table and set values of status to "Married", "Single", "Divorced". At least three records should have status married. Ans:
   Query:

```
ALTER TABLE Employee ADD Matrital_status varchar(255);
UPDATE Employee SET Matrital_status = 'Married' WHERE SSN = 38;
UPDATE Employee SET Matrital_status = 'Married' WHERE SSN = 39;
UPDATE Employee SET Matrital_status = 'Married' WHERE SSN = 40;
UPDATE Employee SET Matrital_status = 'Single' WHERE SSN = 41;
UPDATE Employee SET Matrital_status = 'Divorced' WHERE SSN = 42;
```

   Result:

```
mysql> select *from employee;
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
| SSN | Ename     | Gender | Bdate      | Address    | Salary    | Ono  | Year_of_experence |
Matrital_status |
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
|  38 | SuraJ     | M      | 2024-07-03 | lalitpur-2 |  30000.00 |    2 |              3 | Married        |
|  39 | hari      | M      | 2024-08-03 | lamahi-2   |  40000.00 |    4 |              7 | Married        |
|  40 | Ram       | M      | 2024-01-03 | ktm-2      |  20000.00 |    1 |             10 | Married        |
|  41 | Sita      | F      | 1990-05-02 | australia  |  10000.00 |    5 |              4 | Single         |
|  42 | pratiksha | F      | 2061-05-07 | dang       | 100000.00 |    1 |              7 | Divorced       |
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+ 5
rows in set (0.01 sec)
```

4. Insert ten records in the table PF, where at least two records have the Remarks field NULL. Ans:
   Query:

```
INSERT INTO PF (PFID, SSN, PFCategoryName, Amount, Start_date, Remarks)
VALUES
  (1, 38, 'Category 1', 1000, '2022-01-01', NULL),
  (2, 39, 'Category 2', 2000, '2022-02-01', 'good'),
  (3, 40, 'Category 3', 3000, '2022-03-01', NULL),
  (4, 41, 'Category 4', 4000, '2022-04-01', 'Another remark'),
```

```
(5, 42, 'Category 5', 5000, '2022-05-01', NULL),
(6, 38, 'Category 1', 1000, '2022-01-01', 'Remark'),
(7, 39, 'Category 2', 2000, '2022-02-01', NULL),
(8, 40, 'Category 3', 3000, '2022-03-01', 'Remark'),
(9, 41, 'Category 4', 4000, '2022-04-01', NULL),
(10, 42, 'Category 5', 5000, '2022-05-01', 'Remark');
```

Result:

```
mysql> select *from pf;
+------+------+----------------+---------+------------+----------------+
| PFID | SSN  | PFCategoryName | Amount  | Start_date | Remarks        |
+------+------+----------------+---------+------------+----------------+
|    1 |   38 | Category 1     | 1000.00 | 2022-01-01 | NULL           | |
2 |   39 | Category 2     | 2000.00 | 2022-02-01 | good           |
|    3 |   40 | Category 3     | 3000.00 | 2022-03-01 | NULL           |
|    4 |   41 | Category 4     | 4000.00 | 2022-04-01 | Another remark |
|    5 |   42 | Category 5     | 5000.00 | 2022-05-01 | NULL           |
|    6 |   38 | Category 1     | 1000.00 | 2022-01-01 | Remark         |
|    7 |   39 | Category 2     | 2000.00 | 2022-02-01 | NULL           |
|    8 |   40 | Category 3     | 3000.00 | 2022-03-01 | Remark         |
|    9 |   41 | Category 4     | 4000.00 | 2022-04-01 | NULL           |
|   10 |   42 | Category 5     | 5000.00 | 2022-05-01 | Remark         |
+------+------+----------------+---------+------------+----------------+
10 rows in set (0.00 sec)
```

5. Select all employees. Ans:

```
mysql> select *from employee;
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
| SSN | Ename     | Gender | Bdate      | Address    | Salary    | Ono  | Year_of_experence |
Matrital_status |
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
|  38 | SuraJ     | M      | 2024-07-03 | lalitpur-2 |  30000.00 |    2 |                3 | Married        |
|  39 | hari      | M      | 2024-08-03 | lamahi-2   |  40000.00 |    4 |                7 | Married        |
|  40 | Ram       | M      | 2024-01-03 | ktm-2      |  20000.00 |    1 |               10 | Married        |
|  41 | Sita      | F      | 1990-05-02 | australia  |  10000.00 |    5 |                4 | Single         |
|  42 | pratiksha | F      | 2061-05-07 | dang       | 100000.00 |    1 |                7 | Divorced       |
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+ 5
rows in set (0.00 sec)
```

6. Select employees having salary greater than 30000 and list the results in descending order of Ename.

Ans: Query:

```
mysql> SELECT * FROM Employee WHERE Salary > 30000 ORDER BY Ename DESC; Result:
```

Result:

```
+-----+-----------+--------+------------+----------+-----------+------+------------------+----------------+
| SSN | Ename     | Gender | Bdate      | Address  | Salary    | Ono  | Year_of_experence |
Matrital_status |
+-----+-----------+--------+------------+----------+-----------+------+------------------+----------------+
|  42 | pratiksha | F      | 2061-05-07 | dang     | 100000.00 |    1 |              7 | Divorced       |
|  39 | hari      | M      | 2024-08-03 | lamahi-2 |  40000.00 |    4 |              7 | Married        |
+-----+-----------+--------+------------+----------+-----------+------+------------------+----------------+ 2
rows in set (0.00 sec)
```

7. Retrieve the tuples from project table. Sort the tuples on the basis of Pname.

Ans: Query:

```
mysql> SELECT * FROM Project ORDER BY Pname;
```

Result:

```
+---------+------------------+---------------+---------+
| Pnumber | Pname            | Proj_location | Onumber |
+---------+------------------+---------------+---------+
|      20 | Hari_ProjMDS     | bhaktapur     |       2 |
|      22 | pratiksha_ProjMDS | bhaktapur     |       4 |
|      23 | Ram_ProjMDS      | ktm-2         |       5 |
|      21 | Sita_ProjMDS     | australia     |       3 |
|      76 | Suraj_ProjMDS    | lalitpur      |       1 |
+---------+------------------+---------------+---------+
5 rows in set (0.00 sec)
```

8. Select the employees having salary greater than 30000 and years of experience less than 3 years.

Query: SELECT * FROM Employee WHERE Salary > 30000 AND Year_of_experence < 3;

Result: Before:

```
mysql> SELECT * FROM Employee;
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
| SSN | Ename     | Gender | Bdate      | Address    | Salary    | Ono  | Year_of_experence |
Matrital_status |
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
|  38 | SuraJ     | M      | 2024-07-03 | lalitpur-2 |  30000.00 |    2 |              3 | Married        |
|  39 | hari      | M      | 2024-08-03 | lamahi-2   |  40000.00 |    4 |              7 | Married        |
|  40 | Ram       | M      | 2024-01-03 | ktm-2      |  20000.00 |    1 |             10 | Married        |
|  41 | Sita      | F      | 1990-05-02 | australia  |  10000.00 |    5 |              4 | Single         |
|  42 | pratiksha | F      | 2061-05-07 | dang       | 100000.00 |    1 |              7 | Divorced       |
+-----+-----------+--------+------------+------------+-----------+------+------------------+----------------+
5 rows in set (0.00 sec) After:
mysql> SELECT * FROM Employee WHERE Salary > 30000 AND Year_of_experence < 3; Empty
set (0.00 sec)
```

9. Select the name, address, and salary of employees having salary greater than 30000 or years of experience less than 3 years.
   Ans:
   Query: mysql> SELECT Ename, Address, Salary FROM Employee WHERE Salary > 30000 OR Year_of_experence < 3; **Result:**

```
+-----------+----------+-----------+
| Ename     | Address  | Salary    | +-----------+----------+-----------+
| hari      | lamahi-2 |  40000.00 |
| pratiksha | dang     | 100000.00 |
+-----------+----------+-----------+
```

   2 rows in set (0.00 sec)
10. Select the all dependents.
    Ans:
    Query: mysql> select *from dependents;

    Result:

```
+-----+---------+------+------+-----------+
| Did | Dname   | Dage | SSN  | Drelation |
+-----+---------+------+------+-----------+
|   1 | himesh  |   15 |   38 | brother   |
|   2 | yam     |   15 |   38 | mother    |
|   3 | sima    |   10 |   39 | sister    |
|   4 | krinjal |    5 |   40 | brother   |
|   5 | basu    |   14 |   41 | cousin    |
+-----+---------+------+------+-----------+
```

    5 rows in set (0.01 sec)
11. Select the name and age of the dependents having age between 5 to 60.
    Ans: **Query:**
    mysql> SELECT Dname, Dage FROM Dependents WHERE Dage BETWEEN 5 AND 60; **Result:**

```
+---------+------+
| Dname   | Dage |
+---------+------+
| himesh  |   15 |
| yam     |   15 |
| sima    |   10 | |
krinjal |    5 |
| basu    |   14 |
+---------+------+
```

    5 rows in set (0.00 sec)
12. Select the offices having office name like “%Nt%” as substring.
    Query:
    mysql> SELECT * FROM Office WHERE Oname LIKE '%Nt%';

Result:

```
+---------+--------------+---------+
| Onumber | Oname        | Country |
+---------+--------------+---------+
|       2 | Suraj_ntc_38 | UK      |
+---------+--------------+---------+
1 row in set (0.00 sec)
```

13. Select the offices having office number in (1, 2, 3).
    Ans: **Query:**
    mysql> SELECT * FROM Office WHERE Onumber IN (1, 2, 3);

    Result:

```
+---------+-----------------+---------+
| Onumber | Oname           | Country |
+---------+-----------------+---------+
|       1 | Suraj_Office_38 | USA     |
|       2 | Suraj_ntc_38    | UK      |
|       3 | hari_Office_06  | Nepal   |
+---------+-----------------+---------+
3 rows in set (0.01 sec)
```

14. Select the records from PF table where remarks is NULL
    Ans: **Query:**
    mysql> SELECT * FROM PF WHERE Remarks IS NULL;

    Result:

```
+------+------+----------------+---------+------------+---------+
| PFID | SSN  | PFCategoryName | Amount  | Start_date | Remarks |
+------+------+----------------+---------+------------+---------+
|    1 |   38 | Category 1     | 1000.00 | 2022-01-01 | NULL    |
|    3 |   40 | Category 3     | 3000.00 | 2022-03-01 | NULL    |
|    5 |   42 | Category 5     | 5000.00 | 2022-05-01 | NULL    |
|    7 |   39 | Category 2     | 2000.00 | 2022-02-01 | NULL    |
|    9 |   41 | Category 4     | 4000.00 | 2022-04-01 | NULL    |
+------+------+----------------+---------+------------+---------+
5 rows in set (0.00 sec)
```

15. Select PF category name, amount, start date and remarks from PF where remarks is not NULL
    Ans:
    Query:
    mysql> SELECT PFCategoryName, Amount, Start_date, Remarks FROM PF WHERE Remarks IS NOT NULL;

Result:

```
+----------------+---------+------------+----------------+
| PFCategoryName | Amount  | Start_date | Remarks        |
+----------------+---------+------------+----------------+
| Category 2     | 2000.00 | 2022-02-01 | good           |
| Category 4     | 4000.00 | 2022-04-01 | Another remark |
| Category 1     | 1000.00 | 2022-01-01 | Remark         |
| Category 3     | 3000.00 | 2022-03-01 | Remark         |
| Category 5     | 5000.00 | 2022-05-01 | Remark         |
+----------------+---------+------------+----------------+
5 rows in set (0.00 sec)
```

16. Select the five records from PF table using LIMIT Clause.

Ans: **Query:**

```
mysql> SELECT * FROM PF LIMIT 5;
```

Result:

```
+------+------+----------------+---------+------------+----------------+
| PFID | SSN  | PFCategoryName | Amount  | Start_date | Remarks        |
+------+------+----------------+---------+------------+----------------+
|    1 |   38 | Category 1     | 1000.00 | 2022-01-01 | NULL           | |
2 |   39 | Category 2     | 2000.00 | 2022-02-01 | good           |
|    3 |   40 | Category 3     | 3000.00 | 2022-03-01 | NULL           |
|    4 |   41 | Category 4     | 4000.00 | 2022-04-01 | Another remark |
|    5 |   42 | Category 5     | 5000.00 | 2022-05-01 | NULL           |
+------+------+----------------+---------+------------+----------------+
5 rows in set (0.00 sec)
```

17. Select the category name of PF where amount is not equal to 3000.

Ans: **Query:**

```
mysql> SELECT PFCategoryName FROM PF WHERE Amount <> 3000;
```

Result:

```
+----------------+
| PFCategoryName |
+----------------+
| Category 1     |
| Category 2     |
| Category 4     |
| Category 5     |
| Category 1     |
| Category 2     |
| Category 4     |
| Category 5     |
+----------------+
8 rows in set (0.00 sec)
```

18. Select all employees who works on project no 2.

Ans:

Query:

```
SELECT *
FROM EmployeeWHERE SSN IN (
   SELECT SSN
   FROM Works_on
   WHERE PNO = 2
);
```

Result:

Before:

```
 mysql> select *from employee;
   +-----+-----------+--------+------------+------------+-----------+------+------------------+-----------------+
| SSN | Ename    | Gender | Bdate     | Address   | Salary   | Ono  | Year_of_experence | Matrital_status|
          +-----+-----------+--------+------------+------------+-----------+------+------------------+-----------------+
          |  38 | SuraJ    | M     | 2024-07-03 | lalitpur-2 |  30000.00 |    2 |              3 | Married
|
          |  39 | hari     | M     | 2024-08-03 | lamahi-2   |  40000.00 |    4 |              7 | Married
|
          |  40 | Ram      | M     | 2024-01-03 | ktm-2      |  20000.00 |    1 |             10 | Married
|
          |  41 | Sita     | F     | 1990-05-02 | australia  |  10000.00 |    5 |              4 | Single
          |
          |  42 | pratiksha | F     | 2061-05-07 | dang       | 100000.00 |    1 |              7 | Divorced
|
          +-----+-----------+--------+------------+------------+-----------+------+------------------+-----------------+
          5 rows in set (0.00 sec)

          mysql> select * from works_on;
          +------+------+
          | ESSN | Pno  |
          +------+------+
          |   38 |   20 |
          |   39 |   21 |
          |   40 |   22 |
          |   41 |   23 |
  |   42 |   76 | +------+------+
          5 rows in set (0.00 sec)
```

After:

```
Empty set (0.01 sec)
```