LAB-6 : SET OPERATOR

SET operators are special type of operators which are used to *combine the result of two queries.*
Operators covered under SET operators are:

1. Union

- The SQL Union operation is used to combine the result of two or more SQL SELECT queries.
- In the union operation, all the number of datatype and columns must be same in both the tables on which UNION operation is being applied.
- The union operation eliminates the duplicate rows from its resultset.

Syntax

```
SELECT column_name FROM table1
UNION
SELECT column_name FROM table2;
```

2. Union All

Union All operation is equal to the Union operation. It returns the set without removing duplication and sorting the data.

Syntax:

```
SELECT column_name FROM table1
UNION ALL
SELECT column_name FROM table2;
```

3. Intersect

- It is used to combine two SELECT statements. The Intersect operation returns the common rows from both the SELECT statements.
- In the Intersect operation, the number of datatype and columns must be the same.
- It has no duplicates and it arranges the data in ascending order by default.

Syntax

```
SELECT column_name FROM table1
INTERSECT
SELECT column_name FROM table2;
```

4. Minus

- It combines the result of two SELECT statements. Minus operator is used to display the rows which are present in the first query but absent in the second query.
- It has no duplicates and data arranged in ascending order by default.

Syntax:

```
SELECT column_name FROM table1
MINUS
SELECT column_name FROM table2;
```

a. Display all the dept numbers available with the dept and emp tables avoiding duplicates.

SELECT DISTINCT DEPTNO FROM EMP UNION ALL SELECT DISTINCT DEPTNO FROM DEPT;

```
mysql> SELECT DISTINCT DEPTNO FROM EMP UNION ALL SELECT DISTINCT DEPTNO FROM DEPT;
+--------+
| DEPTNO |
+--------+
|      1 |
|      2 |
|      3 |
|      4 |
|      5 |
|      1 |
+--------+
6 rows in set (0.00 sec)
```

b. Display all the dept numbers available with the dept and emp tables.

SELECT DEPTNO FROM EMP UNION ALL SELECT DEPTNO FROM DEPT;

```
mysql> SELECT DEPTNO FROM EMP UNION ALL SELECT DEPTNO FROM DEPT;
+--------+
| DEPTNO |
+--------+
|      1 |
|      1 |
|      2 |
|      3 |
|      4 |
|      5 |
|      1 |
+--------+
7 rows in set (0.00 sec)
```

c. Display all the dept numbers available in emp and not in employeee tables and vice versa.

SELECT * FROM EMP;

```
mysql> SELECT * FROM EMP;
+-------+-----------------+---------------+--------+--------+
| EMPNO | ENAME           | JOB           | DEPTNO | SAL    |
+-------+-----------------+---------------+--------+--------+
|     1 | ROSHAN SHRESTHA | MANAGER       |      1 | 200000 |
|     2 | UKESH SHRESTHA  | ASST.MANAGER  |      1 | 100000 |
|     3 | SUMIT ADHIKARI  | SALES HEAD    |      2 | 100000 |
|     4 | SHREEJAN BALAMI | SALES OFFICER |      3 |  80000 |
|     5 | KUSHAL PIYA     | ASP           |      4 |  15000 |
|     6 | RAMESH SHRESTHA | ASP           |      5 |  15000 |
|     7 | RUBEEN SHRESTHA | IT            |      7 |  55000 |
+-------+-----------------+---------------+--------+--------+
7 rows in set (0.00 sec)
```

SELECT * FROM EMPLOYEEE;

```
mysql> SELECT * FROM EMPLOYEEE;
+-------+-----------------+---------------+--------+--------+
| EMPNO | ENAME           | JOB           | DEPTNO | SAL    |
+-------+-----------------+---------------+--------+--------+
|     1 | ROSHAN SHRESTHA | MANAGER       |      1 | 200000 |
|     2 | UKESH SHRESTHA  | ASST.MANAGER  |      1 | 100000 |
|     3 | SUMIT ADHIKARI  | SALES HEAD    |      2 | 100000 |
|     4 | SHREEJAN BALAMI | SALES OFFICER |      3 |  80000 |
|     5 | KUSHAL PIYA     | ASP           |      4 |  15000 |
|     6 | RAMESH SHRESTHA | ASP           |      5 |  15000 |
|     7 | ANSH SHRESTHA   | LECTURER      |      6 |  20000 |
|     8 | AMIR SHRESTHA   | LECTURER      |      6 |  20000 |
+-------+-----------------+---------------+--------+--------+
8 rows in set (0.00 sec)
```

SELECT DEPTNO FROM EMP LEFT JOIN EMPLOYEEE USING(DEPTNO) WHERE EMPLOYEEE.DEPTNO IS NULL;

```
mysql> SELECT DEPTNO FROM EMP LEFT JOIN  EMPLOYEEE USING(DEPTNO) WHERE EMPLOYEEE.DEPTNO
IS NULL;
+--------+
| DEPTNO |
+--------+
|      7 |
+--------+
1 row in set (0.00 sec)
```

SELECT DEPTNO FROM EMPLOYEEE LEFT JOIN EMP USING(DEPTNO) WHERE EMP.DEPTNO IS NULL;

```
ERROR 1146 (42S02): Table 'lab.empe' doesn't exist
mysql> SELECT DEPTNO FROM EMPLOYEEE LEFT JOIN  EMP USING(DEPTNO) WHERE EMP.DEPTNO IS NULL
;
+--------+
| DEPTNO |
+--------+
|      6 |
|      6 |
+--------+
2 rows in set (0.00 sec)
```