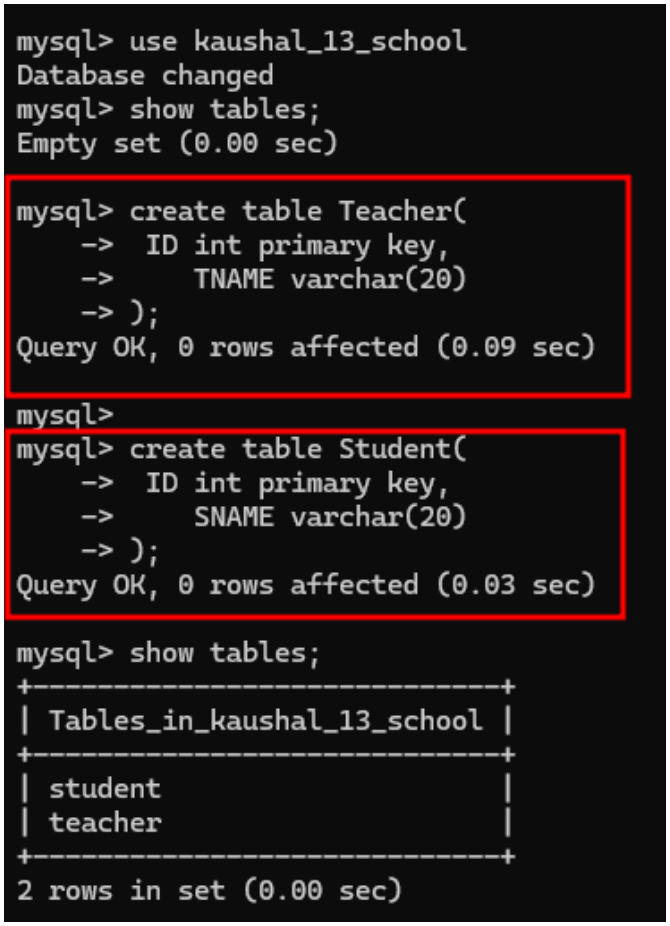
LAB 4
NAME: KAUSHAL KHATIWADA
ROLL_NO: 13

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



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

```
mysql> insert into Teacher
    -> values   (1,"Karma"),
    ->          (2,"Shyam"),
    ->          (3,"Rajesh"),
    ->          (4,"Gopal"),
    ->          (5,"Robert");
Query OK, 5 rows affected (0.03 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from Teacher;
+----+--------+
| ID | TNAME  |
+----+--------+
|  1 | Karma  |
|  2 | Shyam  |
|  3 | Rajesh |
|  4 | Gopal  |
|  5 | Robert |
+----+--------+
5 rows in set (0.00 sec)
```

```
mysql> insert into Student
    -> values   (1,"Karma"),
    ->          (2,"Ram"),
    ->          (3,"Rajesh"),
    ->          (4,"Nabin"),
    ->          (5,"Robert");
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from Student;
+----+--------+
| ID | SNAME  |
+----+--------+
|  1 | Karma  |
|  2 | Ram    |
|  3 | Rajesh |
|  4 | Nabin  |
|  5 | Robert |
+----+--------+
5 rows in set (0.00 sec)
```

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

```
mysql> select TNAME as ALL_NAMES from Teacher
    -> union
    -> select SNAME from Student;
+-----------+
| ALL_NAMES |
+-----------+
| Karma     |
| Shyam     |
| Rajesh    |
| Gopal     |
| Robert    |
| Ram       |
| Nabin     |
+-----------+
7 rows in set (0.00 sec)
```

UNION combines the result of two select operation.

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

```
mysql> select TNAME as COMMON_NAME from Teacher
    -> intersect
    -> select SNAME from Student;
+-------------+
| COMMON_NAME |
+-------------+
| Karma       |
| Rajesh      |
| Robert      |
+-------------+
3 rows in set (0.00 sec)
```

INTERSECT return only common rows from select operation

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

```
mysql> select distinct TNAME from Teacher
    -> inner join Student
    -> on TNAME=SNAME;
+--------+
| TNAME  |
+--------+
| Karma  |
| Rajesh |
| Robert |
+--------+
3 rows in set (0.00 sec)
```

DISTINCT only returns the distinct or different values.
INNER JOIN selects the record that has matching value in both tables.

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

```
mysql> select Tname
    -> from Teacher
    -> where TNAME in (select SNAME from Student);
+--------+
| Tname  |
+--------+
| Karma  |
| Rajesh |
| Robert |
+--------+
3 rows in set (0.00 sec)
```

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

```
mysql> select T.TNAME as TEACHER_ONLY from Teacher T
    -> left join Student S
    -> on T.TNAME = S.SNAME
    -> where S.ID is null;
+--------------+
| TEACHER_ONLY |
+--------------+
| Shyam        |
| Gopal        |
+--------------+
2 rows in set (0.00 sec)
```

Returns only those rows which are unique in only first table.

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

```
mysql> select count(distinct Oname) as No_Of_Offices from Office;
+---------------+
| No_Of_Offices |
+---------------+
|             7 |
+---------------+
1 row in set (0.03 sec)
```

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

```
mysql> select count(distinct Ename) as No_Of_Employees from Employee;
+-----------------+
| No_Of_Employees |
+-----------------+
|              10 |
+-----------------+
1 row in set (0.00 sec)
```

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

```
mysql> select sum(Salary) as TotalSalary_for_Employees from Employee;
+---------------------------+
| TotalSalary_for_Employees |
+---------------------------+
|                 459000.00 |
+---------------------------+
1 row in set (0.01 sec)
```

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

```
mysql> select avg(Salary) as AverageSalary_Of_Employees from Employee;
+----------------------------+
| AverageSalary_Of_Employees |
+----------------------------+
|               45900.000000 |
+----------------------------+
1 row in set (0.00 sec)
```

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

```
mysql> select max(Amount) as Maximum_PFAmount from PF;
+------------------+
| Maximum_PFAmount |
+------------------+
|          6000.00 |
+------------------+
1 row in set (0.01 sec)
```

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

```
mysql> select min(Amount) as Minimum_PFAmount from PF;
+------------------+
| Minimum_PFAmount |
+------------------+
|          2500.00 |
+------------------+
1 row in set (0.00 sec)
```