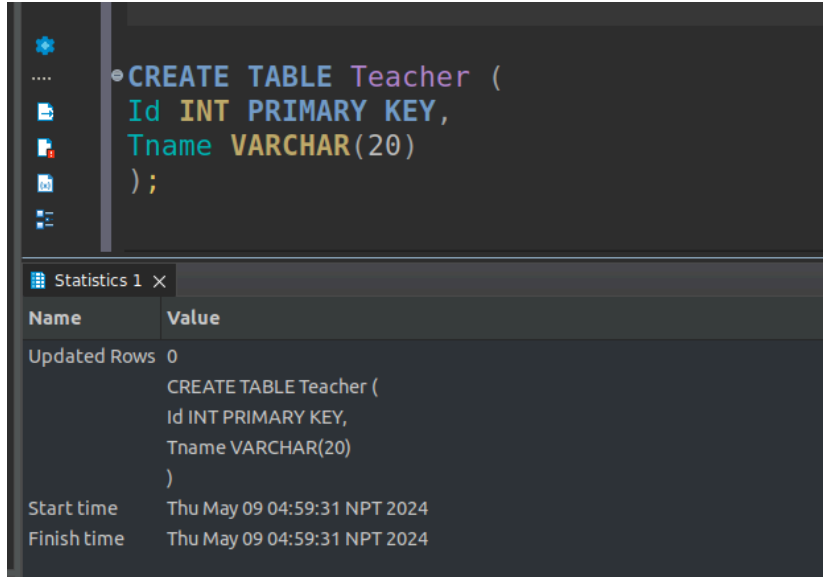


LAB 4 SET OPERATIONS & AGGREGATE FUNCTIONS

Prepare Lab Sheet of MYSQL Statements for the following.

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

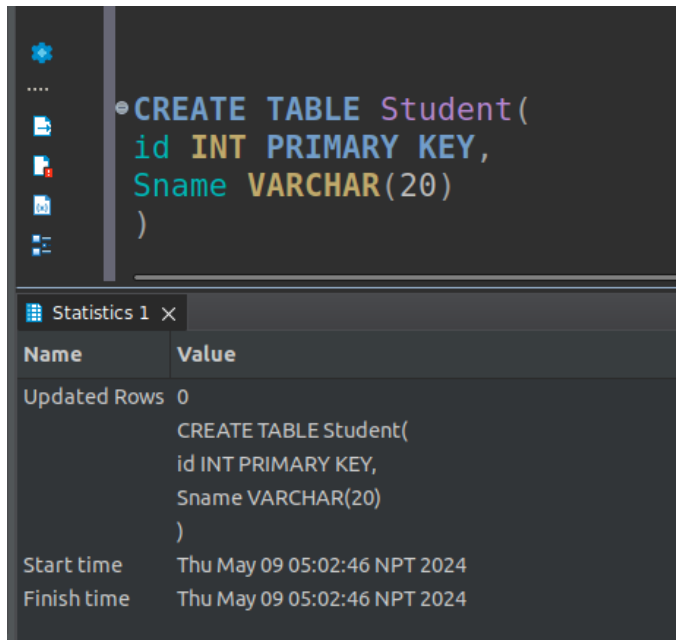
Teacher Table:



The screenshot shows the MySQL Workbench interface. The top pane displays the SQL statement: `CREATE TABLE Teacher (Id INT PRIMARY KEY, Tname VARCHAR(20));`. The bottom pane shows the execution statistics for the statement.

Name	Value
Updated Rows	0
	CREATE TABLE Teacher (Id INT PRIMARY KEY, Tname VARCHAR(20))
Start time	Thu May 09 04:59:31 NPT 2024
Finish time	Thu May 09 04:59:31 NPT 2024

Student Table:



The screenshot shows the MySQL Workbench interface. The top pane displays the SQL statement: `CREATE TABLE Student(id INT PRIMARY KEY, Sname VARCHAR(20))`. The bottom pane shows the execution statistics for the statement.

Name	Value
Updated Rows	0
	CREATE TABLE Student(id INT PRIMARY KEY, Sname VARCHAR(20))
Start time	Thu May 09 05:02:46 NPT 2024
Finish time	Thu May 09 05:02:46 NPT 2024

2. Insert values like {(1, "Ram"), (2, "Hari"), (3, "Sita")}

 in Teacher and {(2, "Hari"), (3, "Sita"), (4, "Gita")} in Student.

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

Statistics 1 ×

Name	Value
Updated Rows	3
	INSERT INTO Teacher(Id, Tname) VALUES
	(1, "Ram"),
	(2, "Hari"),
	(3, "Sita")
Start time	Thu May 09 05:10:11 NPT 2024
Finish time	Thu May 09 05:10:11 NPT 2024

```
• INSERT INTO Student(id, Sname) VALUES
(2, "Hari"),
(3, "Sita"),
(4, "Gita");
```

Statistics 1 ×

Name	Value
Updated Rows	3
	INSERT INTO Student(id, Sname) VALUES
	(2, "Hari"),
	(3, "Sita"),
	(4, "Gita")
Start time	Thu May 09 05:12:03 NPT 2024
Finish time	Thu May 09 05:12:03 NPT 2024

3. Write a query to find the Union of “Teacher” and “Student” tables.

```
• SELECT Id AS ID, Tname AS Name FROM Teacher
UNION
SELECT id AS ID, Sname AS Name FROM Student;
```

Results 1 ×

SELECT Id AS ID, Tname AS Name FROM Teacher UNION SELECT

Enter a SQL expression to filter re

	ID	Name	
1	1	Ram	
2	2	Hari	
3	3	Sita	
4	4	Gita	

•	SELECT <i>Id</i> AS <i>ID</i> , <i>Tname</i> AS <i>Name</i> FROM <i>Teacher</i>
	INTERSECT
	SELECT <i>id</i> AS <i>ID</i> , <i>Sname</i> AS <i>Name</i> FROM <i>Student</i> ;

Results 1	×						
SQL	SELECT ID AS ID, Tname AS Name FROM Teacher INTERSECT SEL						
Grid	<table> <tr> <th>ID</th> <th>Name</th> </tr> <tr> <td>1</td> <td>2 Hari</td> </tr> <tr> <td>2</td> <td>3 Sita</td> </tr> </table>	ID	Name	1	2 Hari	2	3 Sita
ID	Name						
1	2 Hari						
2	3 Sita						

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

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

```

....
SELECT DISTINCT Teacher.Tname AS Name
FROM Teacher
INNER JOIN Student ON Teacher.Tname = Student.Sname;

```

Teacher 1 x

SQL

SELECT DISTINCT Teacher.Tname AS Name FROM Teacher INNER

Enter a SQL expression to filter results (use

	Name
1	Hari
2	Sita

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

```
• SELECT Tname FROM Teacher WHERE  
  TName IN (  
    SELECT SName FROM Student  
  );
```

Teacher 1 X

```
SQL SELECT Tname FROM Teacher WHERE Tname IN ( SELECT Sname
```

Grid	Tname
1	Hari
2	Sita

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

```
•SELECT Teacher.* FROM Teacher LEFT JOIN Student
ON Teacher.Id = Student.id WHERE Student.id IS NULL;
```

Teacher 1 X

SELECT Teacher.* FROM Teacher LEFT JOIN Student ON Teacher.* Enter a SQL expression to filter results (use Ctrl+Space)

	Id	Tname
1	1	Ram

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

```
SELECT COUNT(Oname) AS number_of_offices FROM Office;
```

Results 1 X

SELECT COUNT(Oname) FROM Office Enter a SQL expression to filter results (use Ctrl+Space)

	COUNT(Oname)
1	10

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

```
SELECT DISTINCT COUNT(Ename) AS distinct_names_count FROM EMPLOYEE e;
```

Results 1 X

SELECT DISTINCT COUNT(Ename) AS distinct_names_count FROM EMPLOYEE e Enter a SQL expression to filter results (use Ctrl+Space)

	distinct_names_count
1	9

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

A screenshot of a SQL query execution interface. The query is `SELECT SUM(Salary) AS salary_sum FROM EMPLOYEE;`. The results pane shows a single row with the column header `salary_sum` and the value `685,000`.

	salary_sum
1	685,000

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

A screenshot of a SQL query execution interface. The query is `SELECT AVG(Salary) AS average_salary FROM EMPLOYEE;`. The results pane shows a single row with the column header `average_salary` and the value `76,111.111111`.

	average_salary
1	76,111.111111

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


A screenshot of a SQL query execution interface. The query is `SELECT MAX(Amount) AS maximum_pf_amount FROM PF;`. The results pane shows a single row with the column header `maximum_pf_amount` and the value `6,000`.


	maximum_pf_amount
1	6,000

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

```
SELECT MIN(Amount) AS minimum_pf_amount FROM PF;
```

Results 1 X

SELECT MIN(Amount) AS minimum_pf_amount FROM PF  Enter a SQL expression to filter results (use C

	 123 minimum_pf_amount	
1	2,500	