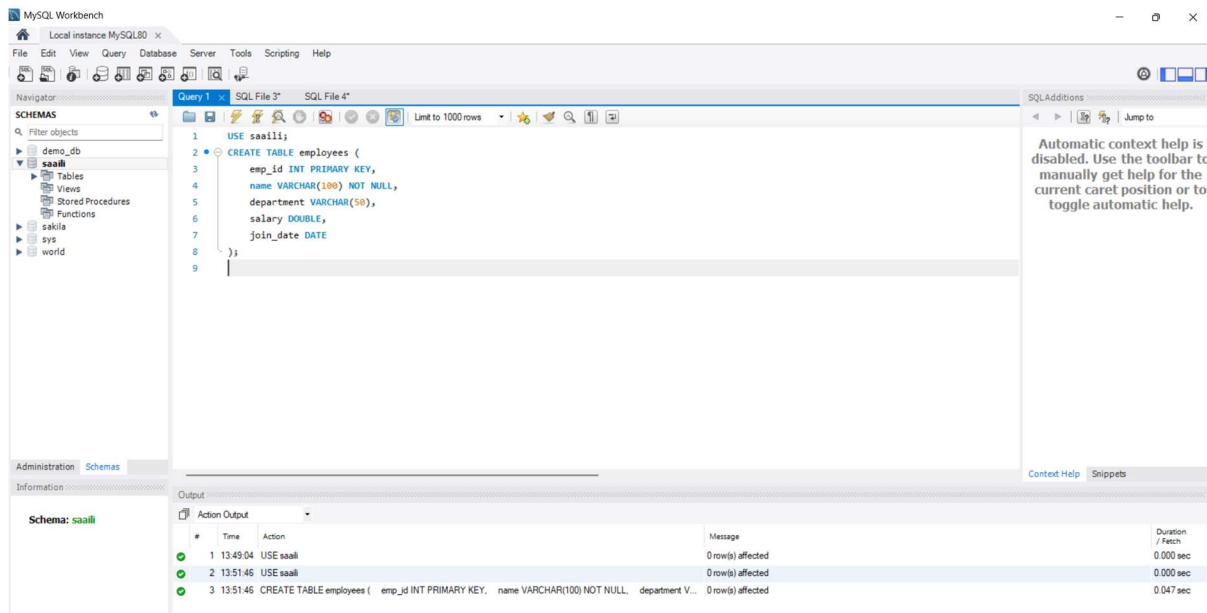


SQL(Structural Query Language)

Name :- Abhijeet Topale

1) Creating table

```
CREATE TABLE employees (  
    emp_id INT PRIMARY KEY,  
    name VARCHAR(100) NOT NULL,  
    department VARCHAR(50),  
    salary DOUBLE,  
    join_date DATE  
);
```



2) Insert query

```
INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES  
(101, 'John Doe', 'HR', 45000, '2021-06-15'),  
(102, 'Jane Smith', 'IT', 75000, '2020-01-10'),  
(103, 'Alice Johnson', 'Finance', 60000, '2019-08-23'),  
(104, 'Bob Brown', 'IT', 80000, '2022-03-01'),  
(105, 'Eve Davis', 'Marketing', 55000, '2021-11-05');
```

MySQL Workbench

Local instance MySQL80

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sakila

sys

world

Query 1 x SQL File 3* SQL File 4*

Limit to 1000 rows

```
1 USE saali;
2 CREATE TABLE employees (
3     emp_id INT PRIMARY KEY,
4     name VARCHAR(100) NOT NULL,
5     department VARCHAR(50),
6     salary DOUBLE,
7     join_date DATE
8 );
9
10 INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES
11 (101, 'John Doe', 'HR', 45000, '2021-06-15'),
12 (102, 'Jane Smith', 'IT', 75000, '2020-01-10'),
13 (103, 'Alice Johnson', 'Finance', 60000, '2019-08-23'),
14 (104, 'Bob Brown', 'IT', 80000, '2022-03-01'),
15 (105, 'Eve Davis', 'Marketing', 55000, '2021-11-05');
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Schema: saali

Object Info Session

Output

#	Time	Action	Message	Duration / Fetch
2	13:55:21	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, department ...	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server ...	0.000 sec
3	13:55:25	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, department ...	Error Code: 1050. Table 'employees' already exists	0.000 sec
4	13:55:32	INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES (101, 'John Doe', 'HR', 45000, '2...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
5	13:55:37	USE saali	0 row(s) affected	0.000 sec
6	13:55:37	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, department ...	Error Code: 1050. Table 'employees' already exists	0.000 sec

Select query

SELECT * FROM employees;

MySQL Workbench

Local instance MySQL80

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Query 1 x SQL File 3* SQL File 4*

Limit to 1000 rows

```
10 (101, 'John Doe', 'HR', 45000, '2021-06-15'),
11 (102, 'Jane Smith', 'IT', 75000, '2020-01-10'),
12 (103, 'Alice Johnson', 'Finance', 60000, '2019-08-23'),
13 (104, 'Bob Brown', 'IT', 80000, '2022-03-01'),
14 (105, 'Eve Davis', 'Marketing', 55000, '2021-11-05');
15
16 SELECT * FROM employees;
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Schema: saali

Object Info Session

Output

#	Time	Action	Message	Duration / Fetch
2	13:55:21	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, departm...	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
3	13:55:26	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, departm...	Error Code: 1050. Table 'employees' already exists	0.000 sec
4	13:55:32	INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES (101, 'John Doe', 'HR', 4500...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
5	13:55:37	USE saali	0 row(s) affected	0.000 sec
6	13:55:37	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, departm...	Error Code: 1050. Table 'employees' already exists	0.000 sec
7	13:56:37	SELECT * FROM employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

employees 1 x

Apply Revert

Context Help Snippets

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	80000	2022-03-01
105	Eve Davis	Marketing	55000	2021-11-05

SELECT name, department FROM employees;

The screenshot shows a SQL IDE with a query editor and a result grid. The query editor contains the following SQL code:

```
11 (102, 'Jane Smith', 'IT', 75000, '2020-01-10'),
12 (103, 'Alice Johnson', 'Finance', 60000, '2019-08-23'),
13 (104, 'Bob Brown', 'IT', 80000, '2022-03-01'),
14 (105, 'Eve Davis', 'Marketing', 55000, '2021-11-05');
15
16 • SELECT * FROM employees;
17 • SELECT name, department FROM employees;
```

The result grid shows the following data:

	name	department
▶	John Doe	HR
	Jane Smith	IT
	Alice Johnson	Finance
	Bob Brown	IT
	Eve Davis	Marketing

SELECT * FROM employees

WHERE department = 'IT';

The screenshot shows a SQL IDE with a query editor and a result grid. The query editor contains the following SQL code:

```
18 • SELECT name, department FROM employees;
19 • SELECT * FROM employees; SELECT * FROM employees WHERE department = 'IT';
20
```

The result grid shows the following data:

	emp_id	name	department	salary	join_date
▶	102	Jane Smith	IT	75000	2020-01-10
	104	Bob Brown	IT	80000	2022-03-01
•	NULL	NULL	NULL	NULL	NULL

AND, IN BETWEEN & LIKE

SELECT * FROM employees

WHERE department = 'IT' AND salary > 75000;

```

21 • SELECT * FROM employees
22 WHERE department = 'IT' AND salary > 75000;
23

```

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
emp_id	name	department	salary	join_date
104	Bob Brown	IT	80000	2022-03-01
NULL	NULL	NULL	NULL	NULL

SELECT * FROM employees
WHERE department IN ('IT', 'Finance');

```

24 • SELECT * FROM employees
25 WHERE department IN ('IT', 'Finance');
26

```

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
emp_id	name	department	salary	join_date
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	80000	2022-03-01
NULL	NULL	NULL	NULL	NULL

SELECT * FROM employees
WHERE salary BETWEEN 50000 AND 70000;

```

26
27 • SELECT * FROM employees
28 WHERE salary BETWEEN 50000 AND 70000;
29

```

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
emp_id	name	department	salary	join_date
103	Alice Johnson	Finance	60000	2019-08-23
105	Eve Davis	Marketing	55000	2021-11-05
NULL	NULL	NULL	NULL	NULL

SELECT * FROM employees
WHERE name LIKE 'J%'; -- Names starting with J

```

30 • SELECT * FROM employees
31 WHERE name LIKE 'J%'; -- Names starting with J
32

```

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
NULL	NULL	NULL	NULL	NULL

CLAUSE -ORDER BY, WHERE, HAVING

SELECT * FROM employees
ORDER BY salary DESC;

```

32 • SELECT * FROM employees
33 ORDER BY salary DESC;
34
35

```

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
emp_id	name	department	salary	join_date
104	Bob Brown	IT	80000	2022-03-01
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
105	Eve Davis	Marketing	55000	2021-11-05
101	John Doe	HR	45000	2021-06-15
NULL	NULL	NULL	NULL	NULL

6) UPDATE QUERY

UPDATE employees
SET salary = 82000
WHERE emp_id = 104;

```

35 • UPDATE employees
36   SET salary = 82000
37   WHERE emp_id = 104;
38
39 • SELECT * FROM employees

```

Result Grid					
Filter Rows: <input type="text"/>					
Edit:					
Export/Import:					
Wrap Cell Content:					
	emp_id	name	department	salary	join_date
▶	101	John Doe	HR	45000	2021-06-15
	102	Jane Smith	IT	75000	2020-01-10
	103	Alice Johnson	Finance	60000	2019-08-23
	104	Bob Brown	IT	82000	2022-03-01
	105	Eve Davis	Marketing	55000	2021-11-05
*	NULL	NULL	NULL	NULL	NULL

DELETE FROM employees
WHERE emp_id = 105;

```

41 ✖ DELETE FROM employees
42   WHERE emp_id = 105;
43 • SELECT * FROM employees

```

Result Grid					
Filter Rows: <input type="text"/>					
Edit:					
Export/Import:					
Wrap Cell Content:					
	emp_id	name	department	salary	join_date
▶	101	John Doe	HR	45000	2021-06-15
	102	Jane Smith	IT	75000	2020-01-10
	103	Alice Johnson	Finance	60000	2019-08-23
	104	Bob Brown	IT	82000	2022-03-01
*	NULL	NULL	NULL	NULL	NULL

SELECT department, AVG(salary) AS avg_salary
FROM employees
GROUP BY department;

46

47  `SELECT department, AVG(salary) AS avg_salary`

48 `FROM employees`

49 `GROUP BY department;`

50

Result Grid



Filter Rows:

Export:



Wrap Cell Content:



	department	avg_salary
▶	HR	45000
	IT	78500
	Finance	60000

```
SELECT department, COUNT(*) AS emp_count
FROM employees
GROUP BY department
HAVING COUNT(*) > 1;
```

51 • `SELECT department, COUNT(*) AS emp_count`

52 `FROM employees`

53 `GROUP BY department`

54 `HAVING COUNT(*) > 1;`

Result Grid



Filter Rows:

Export:



Wrap Cell Content

	department	emp_count
▶	IT	2