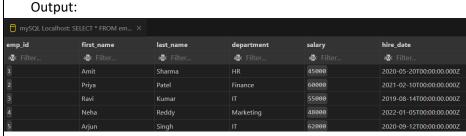
SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE			DEPARTMENT OF COMPUTER SCIENCE ENGINEERING		
Program Name: B. Tech		Assignment Type: Lab		Academic Year:2025-2026	
Course Coordina	ator Name	Venkataramana Veeramsetty			
Instructor(s) Name		Dr. V. Venkataramana (Co-ordinator) Dr. T. Sampath Kumar Dr. Pramoda Patro Dr. Brij Kishor Tiwari Dr.J.Ravichander Dr. Mohammand Ali Shaik			
		Dr. Anirodh Kumar Mr. S.Naresh Kumar Dr. RAJESH VELPULA			
		Mr. Kundhan Kumar Ms. Ch.Rajitha			
		Mr. M Prakash Mr. B.Raju Intern 1 (Dharma teja)			
		Intern 2 (Sai Prasad) Intern 3 (Sowmya)			
Course Code 24CS002PC215		NS_2 (Moun	AI Assisted Cod	ing	
Year/Sem	II/I	Regulation	R24		
Date and Day of Assignment	Week9 - Tuesday	Time(s)			
Duration	2 Hours	Applicable to Batches			
AssignmentNun	nber:16.2(Present as	ssignment numb	per)/ 24 (Total numb	er of assignments)	
Q.No. Que	estion			Expected Time to complete	

Q.No.	Question	Expected Time to complete
1	1.1. Display all records from the employee's table. Prompt: Display all records from the employee's table. 1.1 SELECT * FROM employees;	Week9 - Monday



2.2. Display only employee names and their departments.

Prompt: Display only employee names and their departments

--2.2-SELECT first_name, last_name, department
FROM employees;

Output:

first_name	last_name	department	
abc Filter	a <mark>b</mark> c Filter	a b c Filter	
Amit	Sharma	HR	
Priya	Patel	Finance	
Ravi	Kumar	IT	
Neha	Reddy	Marketing	
Arjun	Singh	IT	

2. 3. Show unique department names.

Prompt: Show unique department names

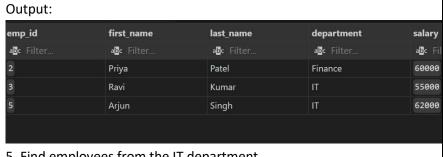
3.3--SELECT DISTINCT department FROM employees;

Output:



4. Find employees with salary greater than 50000.
 Prompt: Find employees with salary greater than 50000.

4.4--SELECT * FROM employees WHERE salary > 50000;



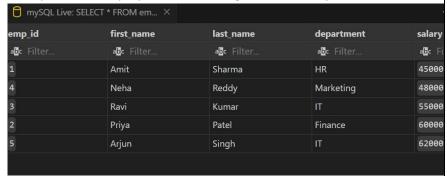
5. Find employees from the IT department.
 Prompt: Find employees from the IT department



6. Display employees hired after 2020.
 Prompt: Display employees hired after 2020.



7. Show employees in ascending order of salary.Prompt: Show employees in ascending order of salary.



8. Show top 3 highest-paid employees.
 Prompt: Show top 3 highest-paid employees



9. Count total employees in the company.Prompt: Count total employees in the company



10. Find the average salary of employees.Prompt: Find the average salary of employees



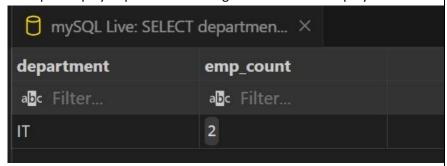
10. 11. Find the highest and lowest salary.
 Prompt: Find the highest and lowest salary.



11. 12. Find total salary expenditure per department.Prompt: Find total salary expenditure per department.

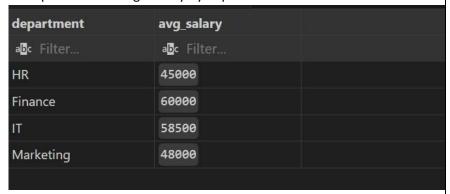


12. 13. Display departments having more than one employee.
 Prompt: Display departments having more than one employee.



13. 14. Show average salary by department.

Prompt: Show average salary by department.

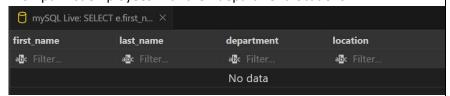


14. 15. Count employees hired each year.

Prompt: Count employees hired each year.



15. 16. List employees with their department locations.Prompt: List employees with their department locations.

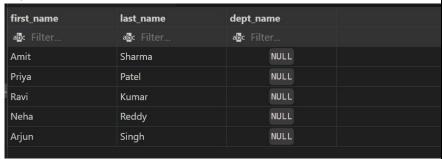


16. 17. Find employees working in Bangalore.

Prompt: Find employees working in Bangalore.



17. 18. Display all employees even if they don't belong to a department. Prompt: Display all employees even if they don't belong to a department.



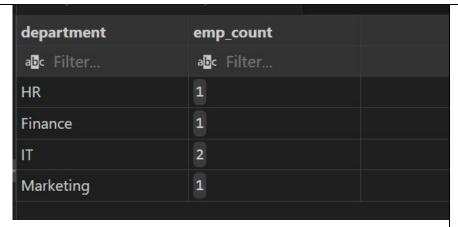
18. 19. Find departments with no employees.

Prompt: Find departments with no employees.



19. 20. Count employees in each department.

Prompt: Count employees in each department.



21. Find employees earning above average salary.
 Prompt: Find employees earning above average salary.

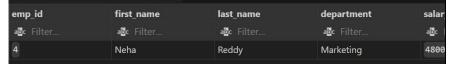


21. 22. Find the department with the highest average salary.
 Prompt: Find the department with the highest average salary.



22. 23. Find employees hired most recently.

Prompt: Find employees hired most recently.

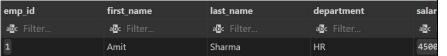


23. 24. Find employees earning the second highest salary.
Prompt: Find employees earning the second highest salary.



24. 25. Find all employees in the same department as 'Amit Sharma'.

Prompt: Find all employees in the same department as 'Amit Sharma'.



25. 26. Increase salary by 10% for IT employees.

Prompt: Increase salary by 10% for IT employees.

No output

26. 27. Change department of employee 'Ravi' to Marketing.

Prompt: Change department of employee 'Ravi' to Marketing

No output

27. 28. Delete employees with salary below 40000.

Prompt: Delete employees with salary below 40000.

No output

28. 29. Add a new column 'email' to employees.

Prompt: Add a new column 'email' to employees

No output

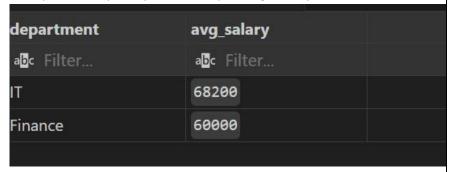
29. 30. Update email IDs for all employees.

Prompt: Update email IDs for all employees.

No output

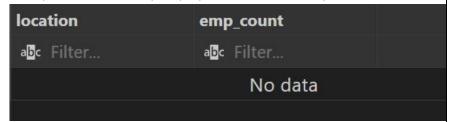
30. 31. Find top 2 departments by average salary.

Prompt: Find top 2 departments by average salary.



31. 32. Find how many employees work in each city.

Prompt: Find how many employees work in each city.

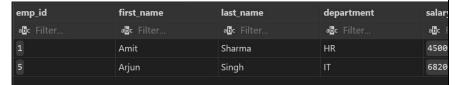


32. 33. Show employee count and total salary together.

Prompt: Show employee count and total salary together.



33. 34. Display employees with names starting with 'A'.
 Prompt: Display employees with names starting with 'A'.



34. 35. Display employees whose last name ends with 'a'.

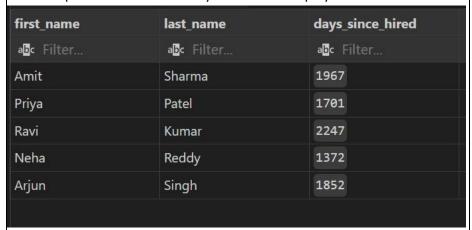
Prompt: Display employees whose last name ends with 'a'.



35. 36. Find employees hired in 2020.
 Prompt: Find employees hired in 2020.

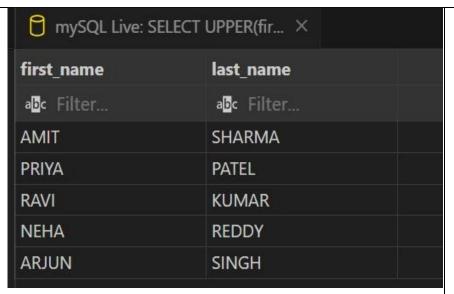


36. 37. Show number of days since each employee was hired.
Prompt: Show number of days since each employee was hired.

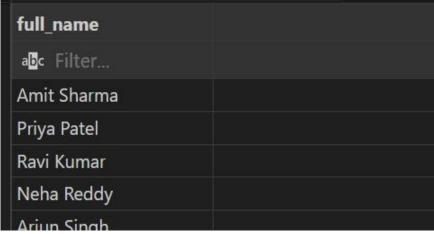


37. 38. Display employee names in uppercase.

Prompt: Display employee names in uppercase.



39. Concatenate first and last names.
 Prompt: Concatenate first and last names.



39. 40. Find employees whose salary is between 45000 and 60000.

Prompt: Find employees whose salary is between 45000 and 60000.

emp_id	first_name	last_name	department	salary
abc Filter				
1	Amit	Sharma	HR	45000
2	Priya	Patel	Finance	60000
4	Neha	Reddy	Marketing	48000

41. Create a view for high salary employees (>55000).
 Prompt: Create a view for high salary employees (>55000).
 No output

41. 42. Display all records from the view.
 Prompt: Display all records from the view.



42. 43. Add NOT NULL constraint to department name.

Prompt: Add NOT NULL constraint to department name.

No output

43. 44. Drop the view.

Prompt: Drop the view

No output

44. 45. Rename the employees table to staff.

Prompt: Rename the employees table to staff.

No output

45. 46. Create a backup copy of the employees table.

Prompt: Create a backup copy of the employees table.

Error

46. 47. Delete all data but keep the structure.

Prompt: Delete all data but keep the structure.

error

47. 48. Drop the employees backup table.

Prompt: Drop the employees backup table.

error

48. 49. Create an index on employee last name.

Prompt: Create an index on employee last name.

error

49. 50. Drop the index.

Prompt: Drop the index.

Error

CODE:

```
QLTools Settings
                  mySQL Live.session.sql
   CREATE DATABASE company;
 USE company;
  CREATE TABLE employees (
   emp_id INT AUTO_INCREMENT PRIMARY KEY,
   first_name VARCHAR(50),
   last_name VARCHAR(50),
   department VARCHAR(50),
   salary DECIMAL(10, 2),
   hire_date DATE
   INSERT INTO employees (first_name, last_name, department, salary, hire_date)
     ('Amit', 'Sharma', 'HR', 45000, '2020-05-20'),
     ('Priya', 'Patel', 'Finance', 60000, '2021-02-10'), ('Ravi', 'Kumar', 'IT', 55000, '2019-08-14'), ('Neha', 'Reddy', 'Marketing', 48000, '2022-01-05'),
     ('Arjun', 'Singh', 'IT', 62000, '2020-09-12');
   SELECT * FROM employees;
   SELECT first_name, last_name, department
   FROM employees;
   SELECT DISTINCT department FROM employees;
   SELECT * FROM employees WHERE salary > 50000;
   SELECT * FROM employees WHERE department = 'IT';
   SELECT * FROM employees WHERE hire_date > '2020-12-31';
   SELECT * FROM employees ORDER BY salary ASC;
   SELECT * FROM employees ORDER BY salary DESC LIMIT 3;
   SELECT COUNT(*) AS total_employees FROM employees;
   SELECT AVG(salary) AS average_salary FROM employees;
   SELECT MAX(salary) AS highest_salary, MIN(salary) AS lowest_salary FROM employees;
   SELECT department, SUM(salary) AS total_salary
   FROM employees
   GROUP BY department;
```

```
SELECT department, COUNT(*) AS emp_count
37
    FROM employees
38
    GROUP BY department
39
    HAVING COUNT(*) > 1;
40
41
    SELECT department, AVG(salary) AS avg_salary
42
    FROM employees
    GROUP BY department;
44
45
    SELECT YEAR(hire_date) AS hire_year, COUNT(*) AS employees_hired
46
    FROM employees
47
    GROUP BY YEAR(hire_date);
48
49
50 CREATE TABLE departments (
     dept_name VARCHAR(50),
location VARCHAR(50)
51
52
53
54
55 SELECT e.first_name, e.last_name, e.department, d.location
56
    FROM employees e
57
    JOIN departments d ON e.department = d.dept_name
58
59
    SELECT e.first_name, e.last_name
    FROM employees e
61
    JOIN departments d ON e.department = d.dept_name
62
    WHERE d.location = 'Bangalore';
63
64
    SELECT e.first_name, e.last_name, d.dept_name
    FROM employees e
    LEFT JOIN departments d ON e.department = d.dept_name;
66
    SELECT d.dept_name
```

```
FROM departments d
    LEFT JOIN employees e ON d.dept_name = e.department
    WHERE e.emp_id IS NULL;
    SELECT department, COUNT(*) AS emp_count
    FROM employees
    GROUP BY department;
     SELECT *
    FROM employees
    WHERE salary > (SELECT AVG(salary) FROM employees);
    SELECT department, AVG(salary) AS avg_salary
81
82
    FROM employees
83
    GROUP BY department
84
    ORDER BY avg_salary DESC
85
    LIMIT 1;
86
    SELECT * FROM employees ORDER BY hire_date DESC LIMIT 1;
88
89
    SELECT *
90
    FROM employees
91
    WHERE salary = (
    SELECT MAX(salary)
93
     FROM employees
     WHERE salary < (SELECT MAX(salary) FROM employees)
95
96
97
    SELECT *
98
    FROM employees
99
    WHERE department = (
      SELECT department FROM employees
.00
     WHERE first_name = 'Amit' AND last_name = 'Sharma'
01
```

```
UPDATE employees
05 SET salary = salary * 1.10
06 WHERE department = 'IT';
08 UPDATE employees
09 SET department = 'Marketing'
10 WHERE first_name = 'Ravi';
11
12
    DELETE FROM employees
    WHERE salary < 40000;
14
15 ALTER TABLE employees ADD COLUMN email VARCHAR(100);
16 ---30--
17 UPDATE employees
18   SET email = CONCAT(LOWER(first_name), '.', LOWER(last_name), '@company.com'
19 ---31--
20 SELECT department, AVG(salary) AS avg_salary
21 FROM employees
    GROUP BY department
    ORDER BY avg_salary DESC
24
25
26 -- (Assumes departments has a location column.)
27 SELECT d.location, COUNT(e.emp_id) AS emp_count
28 FROM employees e
29 JOIN departments d ON e.department = d.dept_name
30 GROUP BY d.location;
31
    SELECT COUNT(*) AS emp_count, SUM(salary) AS total_salary FROM employees;
    SELECT * FROM employees WHERE first_name LIKE 'A%';
35
    SELECT * FROM employees WHERE last_name LIKE '%a';
```

```
138
139
     SELECT * FROM employees
     WHERE YEAR(hire_date) = 2020;
     SELECT first_name, last_name, DATEDIFF(CURDATE(), hire_date) AS days_since_hired
     FROM employees;
     SELECT UPPER(first_name) AS first_name, UPPER(last_name) AS last_name FROM employees;
     SELECT CONCAT(first_name, ' ', last_name) AS full_name FROM employees;
     SELECT * FROM employees
149 WHERE salary BETWEEN 45000 AND 60000;
151 CREATE VIEW high_salary_employees AS
152 SELECT * FROM employees WHERE salary > 55000;
SELECT * FROM high_salary_employees;
     ALTER TABLE employees
157 MODIFY department VARCHAR(50) NOT NULL;
     DROP VIEW high_salary_employees;
161 RENAME TABLE employees TO staff;
     CREATE TABLE employees_backup AS SELECT * FROM employees;
     TRUNCATE TABLE employees;
     DROP TABLE employees_backup;
169 CREATE INDEX idx_lastname ON employees(last_name);
```

Employee Table

emp_id	first_name	last_name	department	salary	hire_date
1	Amit	Sharma	HR	45000	2020-05-20
2	Priya	Patel	Finance	60000	2021-02-10
3	Ravi	Kumar	IT	55000	2019-08-14
4	Neha	Reddy	Marketing	48000	2022-01-05
5	Arjun	Singh	IT	62000	2020-09-12

Department Table

dept_id	dept_name	location
1	HR	Hyderabad
2	Finance	Mumbai
3	IT	Bangalore
4	Marketing	Chennai
5	Operations	Delhi