**🔹 Topic-Wise Questions for practice the basic SQL Queries**

**1. SELECT**

1. Select all columns from employees.
2. Select only first\_name, last\_name, and department.
3. Select first\_name and salary of all employees.
4. Select unique department names.
5. Select all employees but display only first 5 rows.
6. Select emp\_id and email of all employees.
7. Select employees who have a bonus.
8. Select employees whose is\_active = TRUE.
9. Select all employees hired after 2020-01-01.
10. Select employees with a performance rating of 5.

**2. WHERE**

1. Get employees with salary greater than 80000.
2. Find employees from IT department.
3. Find employees older than 40.
4. Find employees hired before 2020-01-01.
5. Find employees whose bonus is NULL.
6. Find employees with age = 30.
7. Find employees not active.
8. Find employees with performance rating less than 3.
9. Find employees who belong to HR department and are active.
10. Find employees with salary not equal to 50000.

**3. AND, OR, NOT**

1. Employees in IT **and** salary above 70000.
2. Employees in Finance **or** Marketing.
3. Employees age between 30–40 **and** salary > 60000.
4. Employees with rating = 5 **or** bonus > 10000.
5. Employees **not** in Sales department.
6. Employees who are active **and not** in HR.
7. Employees with bonus **not null** and salary > 60000.
8. Employees in IT **or** Finance with age < 35.
9. Employees who are active **and** rating >= 4.
10. Employees who are not active **or** salary < 50000.

**4. ORDER BY**

1. List employees ordered by salary ASC.
2. List employees ordered by salary DESC.
3. List employees ordered by age.
4. List employees ordered by hire\_date DESC.
5. Order employees by department, then salary DESC.
6. Order employees by rating DESC.
7. Order employees by last\_name.
8. Order employees by bonus, NULLs last.
9. Order employees by department and first\_name.
10. Order employees by created\_at.

**5. LIMIT**

1. Get top 5 highest paid employees.
2. Get 10 youngest employees.
3. Get 3 most recently hired employees.
4. Get 5 lowest salary employees.
5. Get first 10 employees.
6. Get top 1 highest salary employee.
7. Get last 2 hired employees.
8. Get top 5 oldest employees.
9. Get 7 employees from Finance.
10. Get top 3 employees by rating.

**6. MIN, MAX, COUNT, AVG, SUM**

1. Find minimum salary.
2. Find maximum salary.
3. Find average salary.
4. Find total salary expense.
5. Find number of employees.
6. Find number of employees in IT.
7. Find max bonus.
8. Find min age.
9. Find avg performance rating.
10. Find sum of all bonuses (ignoring NULL).

**7. LIKE, Wildcards**

1. Find employees whose first name starts with A.
2. Find employees whose last name ends with n.
3. Find employees whose email contains hr.
4. Find employees whose phone starts with 98.
5. Find employees with last name length 5.
6. Find employees whose email ends with @company.com.
7. Find employees with first name containing sh.
8. Find employees whose last name contains double letters (ll, ss).
9. Find employees whose first name ends with a.
10. Find employees whose phone number contains 123.

**8. IN, BETWEEN**

1. Employees in departments IT, HR, Finance.
2. Employees not in Sales or Support.
3. Employees with salary between 50000 and 80000.
4. Employees hired between 2020 and 2022.
5. Employees with age between 25 and 35.
6. Employees with rating in (4,5).
7. Employees with bonus in (2000,5000,10000).
8. Employees with salary not between 60000 and 100000.
9. Employees with emp\_id in (1,5,10).
10. Employees with hire\_date between 2019-01-01 and 2020-12-31.

**9. AS (Alias)**

1. Display full name as employee\_name.
2. Display salary as monthly\_salary.
3. Display bonus as incentive.
4. Display department as dept.
5. Display age as years\_old.
6. Display rating as perf\_score.
7. Display total salary (salary+bonus) as total\_package.
8. Display hire\_date as joined\_on.
9. Display phone\_number as mobile.
10. Display is\_active as status.

**10. HAVING**

1. Find departments with more than 5 employees.
2. Find departments with avg salary > 80000.
3. Find departments with sum salary > 300000.
4. Find departments with min salary > 40000.
5. Find departments with max bonus > 10000.
6. Find departments with avg age < 30.
7. Find departments having inactive employees count > 2.
8. Find departments where avg rating >= 4.
9. Find departments with more than 3 employees hired after 2020.
10. Find departments with total bonus > 20000.

**12. ANY, ALL**

1. Employees with salary > ANY salary in HR.
2. Employees with salary > ALL salaries in HR.
3. Employees with salary < ANY in Finance.
4. Employees with salary < ALL in Finance.
5. Employees with age > ANY age in IT.
6. Employees with age < ALL in Marketing.
7. Employees with bonus > ANY bonus in Sales.
8. Employees with bonus < ALL bonus in Finance.
9. Employees hired before ANY HR employee.
10. Employees hired after ALL Sales employees.

**13. CASE**

1. Label salary as High, Medium, Low.
2. Label age group (Young, Mid, Senior).
3. Label bonus (No Bonus, Low Bonus, High Bonus).
4. Label rating (Excellent, Good, Average, Poor).
5. Label is\_active (Active, Inactive).
6. Label department (Tech if IT/Support, Non-Tech otherwise).
7. Label salary as Above Avg or Below Avg.
8. Label employees as New if hire\_date > 2022, else Old.
9. Label employees as Eligible for Promotion if rating=5 & salary>80000.
10. Label employees as Experienced if age > 40.

**14. NULL Functions**

1. Replace null bonus with 0.
2. Show total salary with bonus replaced by 0.
3. Count employees with bonus IS NULL.
4. Count employees with bonus IS NOT NULL.
5. Use IFNULL(bonus, 1000) to display bonus.
6. Use COALESCE(bonus, salary\*0.1) for bonus.
7. List employees with no bonus.
8. Add 2000 bonus if null.
9. Show employees with null phone number (if any).
10. Use NULLIF(salary, 50000) to avoid duplicates.

**15. Operators**

1. Employees with salary + bonus > 90000.
2. Employees with salary - bonus < 60000.
3. Employees with age \* rating > 150.
4. Employees with salary / 12 as monthly pay.
5. Employees with bonus % 2000 = 0.
6. Employees where salary + IFNULL(bonus,0) > 1 lakh.
7. Employees with age + 10 > 50.
8. Employees with salary - 10000 between 50000 and 80000.
9. Employees with bonus \* 2 > 15000.
10. Employees with salary/1000 > rating \* 100.

**🔹 50 Mixed Complex Practice Queries**

1. Find top 5 highest salary employees from IT department.
2. Find avg salary of employees hired after 2020 grouped by department.
3. Find employees with salary > avg salary of Finance dept.
4. Find employees who don’t belong to HR or IT but earn > 70000.
5. Find departments with total salary > 200000 and avg rating > 3.
6. Find employees whose bonus is null but salary > 80000.
7. Find 3 employees with highest bonus.
8. Find employees older than avg age of Marketing dept.
9. Find employees with salary > ALL employees in HR.
10. Find employees hired before ANY employee in IT.
11. Find youngest employee in each department.
12. Find highest paid employee per department.
13. Find departments with more than 10 employees.
14. Find employees who are inactive but bonus > 5000.
15. Find employees whose phone starts with 98 and salary > 70000.
16. Find employees who joined between 2018–2020 with rating > 3.
17. Find employees whose total salary (salary+bonus) is highest.
18. Find employees grouped by department where avg bonus > 5000.
19. Find top 5 oldest employees with bonus not null.
20. Find employees whose name starts with ‘A’ and ends with ‘a’.
21. Find employees with hire\_date = earliest in company.
22. Find employees whose salary = max salary in Marketing.
23. Find all departments and number of employees in them.
24. Find employees with duplicate first names.
25. Find employees with salary > company’s overall avg salary.
26. Find top 3 employees by performance rating and salary.
27. Find employees with salary > 1 lakh OR bonus > 10000.
28. Find employees in IT where bonus is null.
29. Find employees grouped by age range (20s,30s,40s).
30. Find employees active in HR with salary > 60000.
31. Find employees inactive but still have rating >= 4.
32. Find 5 most recently hired employees in Finance.
33. Find departments sorted by avg salary DESC.
34. Find employees with total salary > ALL employees in Sales.
35. Find employees older than 50 and salary < avg salary.
36. Find employees where email contains dept name.
37. Find employees with bonus null but rating = 5.
38. Find employees with emp\_id in top 10 but ordered by salary.
39. Find count of employees per department hired after 2021.
40. Find employees whose salary is between 2nd highest and 5th highest salary.
41. Find employees grouped by is\_active and avg salary.
42. Find employees with no bonus but highest rating.
43. Find employees with phone number containing ‘1234’.
44. Find employees whose salary is exactly avg salary of company.
45. Find employees grouped by dept where max age < 40.
46. Find employees where salary + bonus = max(salary+bonus).
47. Find employees hired in same year as emp\_id=10.
48. Find employees whose first\_name length > 6.
49. Find employees with salary > 80000 ordered by hire\_date.
50. Find employees where bonus > avg bonus of company.