•7¸s'˙Exciting SQL Mastery Series: Get Ready to Dive Deep!

Are you ready to elevate your SQL skills?

-' ` I am thrilled to announce the launch of brand-new series designed to help you master SQL through practical, hands-on learning.

In this series, we will tackle 110 exciting SQL questions based on a simple EMP table associated with 3 other tables.

Why Focus on Just 4 Tables?

Simplicity breeds clarity! By concentrating on a small, manageable dataset, we can dive deep into various SQL concepts and techniques, making it easier for you to understand and apply them in real-world scenarios.

What to Expect:

* Hands-On Queries: Each question is crafted to enhance your understanding of SQL through practical examples.
* Diverse Challenges: From basic operations to complex joins, you’ll tackle

a range of queries to strengthen your SQL skills.

The 110 Exciting Questions Include:

1. Display the details of those managers who do not have any person working under them.
2. Display the details of those employees who are in the sales department and have a grade of 3.
3. Display those employees whose job is not 'Manager' but who manage other employees.
4. Display those employees whose names contain no fewer than 4 characters.
5. Display those departments whose names start with 'A' and locations end with 'K'.
6. Display those employees whose manager's name is JONES.
7. Display those employees whose salary is more than 3000 after a 20% increment.
8. Display all employees along with their department names.
9. Display employees who are working in the sales department.
10. Display employee name, department name, salary, and commission for those employees whose salary is between 2000 and 5000 and location is 'Chicago'.
11. Display those employees whose salary is greater than their manager's salary.
12. Display those employees who are working in the same department where their manager works.
13. Display those employees who are not working under any manager.
14. Display grade and employee names for department numbers 10 or 30 where the grade is not 4 and they joined before 31-Dec-1982.
15. Update the salary of each employee by a 10% increment if they are not eligible for commission.
16. Delete those employees who joined before 31-Dec-1982 and whose department location is New York or Chicago.
17. Display employee name, job, department name, and location for all who are working as managers.
18. Display those employees whose manager's name is JONES and also display their manager’s name.
19. Display the name and salary of employee 'FORD' if their salary equals their grade.
20. Display employee name, job, department name, manager name, salary, and grade, and arrange them by department.
21. List all employees' names, jobs, salaries, grades, and department names except 'CLERK'. Sort by salary in descending order.
22. Display employee name, job, and manager. Include also employees without a manager.
23. Find the top 5 earners in the company.
24. Display the names of those employees who have the highest salary.
25. Display those employees whose salary equals the average of the maximum and minimum salaries.
26. Select the count of employees in each department where the count is greater than 3.
27. Display department names where at least 3 employees are working.
28. Display names of managers whose salary is more than the average salary of employees.
29. Display names of managers whose salary is more than the average salary of employees.
30. Display employee name, salary, commission, and net pay for those employees whose net pay is greater than or equal to any other

employee’s salary.

1. Display those employees whose salary is less than their manager's salary but more than the salary of any other manager.
2. Display all employee names with the total salary of the company for each employee.
3. Find the least 5 earners in the company.
4. Find the number of employees whose salary is greater than their manager's salary.
5. Display those managers who are not working under the president but are working under other managers.
6. Delete those departments where no employee is working.
7. Delete records from the employee table where the department number is not available in the department table.
8. Display those employee names whose salary is outside the ranges defined in the salary grade table.
9. Display employee name, salary, commission, and net pay where the net pay is greater than any other employee's salary in the company.
10. Display the names of those employees who are going to retire on 31-Dec-99, if the maximum job period is 30 years.
11. Display those employees whose salary is an odd value.
12. Display those employees whose salary contains at least 3 digits.
13. Display those employees who joined the company in the month of December.
14. Display those employees whose names contain 'A'.
15. Display those employees whose department number is available in the salary table.
16. Display those employees where the first 2 characters of the hire date match the last 2 characters of their salary.
17. Display those employees whose 10% of salary equals the year of joining.
18. Display those employees who are working in sales or research departments.
19. Display the grade of employee 'JONES'.
20. Display the first 50% of characters of employee names in lowercase and the remaining in uppercase.
21. Display those employees who joined the company before the 15th of this month.
22. Delete records where the number of employees in a particular department is less than 2.
23. Delete those employees who joined the company 10 years ago from today.
24. Display the department name where the number of characters in the name equals the number of employees in another department.
25. Display the name of the department where no employee is working.
26. Display those employees who are working as managers.
27. Count the number of employees working as managers using set operators.
28. Display the names of employees who joined on the same date.
29. Display the manager whose grade is equal to any number in the salaries but not equal to the first number in the salary.
30. Count the number of employees working as managers using set operators.
31. Display the department name of those who joined on the same date.
32. Display the manager who has the maximum number of employees working under them.
33. List employee names and their salaries increased by 15%.
34. Produce the output of the EMP table as "EMPLOYEE\_AND\_JOB" for employee names and jobs.
35. List all employees with their hire dates in the format ‘June 4, 1988’.
36. Print a list of employees displaying ‘Just salary’ if more than 1500, ‘target’ if exactly 1500, and ‘OFF target’ if less.
37. Given a string of the format ‘nn/nn’, verify if the first and last 2

characters are numbers and the middle character is ‘/’. Print ‘yes’ if valid, ‘no’ if not. Test with values ‘112/54’, ‘01/1a’, and ‘99/88’.

1. Employees hired on the 15th of any month are paid on the last Friday of that month. Those hired after the 15th are paid the last Friday of the following month. Print a list of employees, their hire date, and first pay date.
2. Display those employees whose salary contains the first digits of their department number.
3. Display those managers who are earning less than any of their employees.
4. Print the details of all employees who are subordinates to ‘Blake’.
5. Display those who are working as managers using a correlated subquery.
6. Display those employees whose manager’s name is JONES.
7. Find out how many managers are there without listing them.
8. Find out the average salary and total remuneration for each job type, remembering that salespersons earn commission.
9. Check whether all employees’ numbers are indeed unique.
10. List the lowest-paid employees working for each manager. Exclude any groups where the minimum salary is less than Rs.1000. Sort the output by salary.
11. List employee names, jobs, annual salary, department number, department name, and grade who earn 36,000 annually or who are not clerks.
12. Find out the job that was filled in the first half of 1982 and the same job filled during the first half of 1983.
13. Find all the employees who joined the company before their managers.
14. List all employees by name and number along with their manager’s

name and number.

1. Find out the employees who earn the highest salary in each job type, sorted in ascending salary order.
2. Find all the employees who earn the minimum salary for their job, sorted in ascending order.
3. Print a list of employees who earn more than the average salary of their department.
4. Display employees who have the same grade as any of their colleagues.
5. Display those employees whose names are exactly the same length as their manager's name.
6. Find employees whose salaries are not greater than any

employee’s salary but greater than the salaries of their managers.

1. Display the department with the most employees who earn more than 2500.
2. Display employees whose salaries are lower than the highest salary in their department.
3. Find out which department has more employees than the number of characters in its name.
4. Display employees who are not assigned to any department.
5. Find the department number with the maximum number of employees.
6. Find employees who earn more than the average salary of all employees in their department.
7. List the employees who have a different job than the one they had when they joined.
8. Find out the highest salary paid in the company.
9. Find out the department with the maximum number of employees whose salary is greater than 3000.
10. Find the employees whose salary is more than the average salary of their job type.
11. Display employees whose name starts with ‘A’ or ‘B’.
12. List the employees who have a commission but are not working in the sales department.
13. Find all employees whose manager’s name starts with ‘S’.
14. Display all employees working as managers who earn more than the average salary of all employees.
15. Find out the department with the highest total salary.
16. List employees who have not yet been promoted.
17. Find employees whose salary is not equal to the average salary of their department.
18. List employees who have a commission but no direct reports.
19. Display employees whose salaries are exactly the average salary of their department.
20. Find out which department has the highest number of employees earning more than the average salary.
21. Find the total salary of employees in each department.
22. Display those employees whose salary is higher than their grade.
23. Find the maximum salary of employees in each department and the name of the highest-paid employee.

How to Participate:

* + Follow Along: Stay tuned for each question as we release them in our series.
  + Practice: Use these questions to practice and sharpen your SQL skills.
  + Engage: Share your progress and any questions you have with us.
  + Apply: Utilize these queries to build and refine your SQL expertise.

Let’s embark on this SQL adventure together and unlock the full potential of data manipulation with just 4 Tables!

Stay tuned for the first set of answers in the series! Let’s embark on this journey to SQL mastery together

--Table 1 Employee Table CREATE TABLE EMP (

EMPNO INT PRIMARY KEY, -- Employee Number

ENAME VARCHAR (50), -- Employee Name

JOB VARCHAR (50), -- Job Title

MGR INT, -- Manager's Employee Number

HIREDATE DATE, -- Hire Date

SAL DECIMAL (10, 2), -- Salary

COMM DECIMAL (10, 2), -- Commission

DEPTNO INT, -- Department Number

CONSTRAINT FK\_MGR FOREIGN KEY (MGR) REFERENCES EMP(EMPNO)

);

--department Table CREATE TABLE DEPT (

DEPTNO INT PRIMARY KEY, -- Department Number

DNAME VARCHAR(50), -- Department Name

LOC VARCHAR(50) -- Location

);

-- Salary Grade

CREATE TABLE SALGRADE (

GRADE INT, -- Salary Grade

LOSAL DECIMAL(10, 2), -- Lowest Salary for Grade

HISAL DECIMAL(10, 2) -- Highest Salary for Grade

);

-- Job History

CREATE TABLE JOBHISTORY (

EMPNO INT, -- Employee Number

JOB VARCHAR (50), -- Job Title

STARTDATE DATE, -- Start Date of Job

ENDDATE DATE, -- End Date of Job

DEPTNO INT, -- Department Number CONSTRAINT FK\_EMPNO FOREIGN KEY (EMPNO) REFERENCES EMP(EMPNO),

CONSTRAINT FK\_DEPTNO FOREIGN KEY (DEPTNO) REFERENCES DEPT(DEPTNO)

);

INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES

(10, 'ACCOUNTING', 'NEW YORK'),

(20, 'RESEARCH', 'DALLAS'),

(30, 'SALES', 'CHICAGO'),

(40, 'OPERATIONS', 'BOSTON');

INSERT INTO SALGRADE (GRADE, LOSAL, HISAL) VALUES

(1, 700, 1200),

EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES

CLERK', 7902, '1980-12-17', 800, NULL, 20),

SALESMAN', 7698, '1981-02-20', 1600, 300, 30),

(7521, 'WARD', 'SALESMAN', 7698, '1981-02-22', 1250, 500, 30),

|  |  |  |
| --- | --- | --- |
| (2, | 1201, | 1400), |
| (3, | 1401, | 2000), |
| (4, | 2001, | 3000), |
| (5, | 3001, | 9999); |
| INSERT INTO EMP ((7369, 'SMITH', '  (7499, 'ALLEN', ' | | |

(7566, 'JONES', 'MANAGER', 7839, '1981-04-02', 2975, NULL, 20),

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (7698, | 'BLAKE', 'MANAGER', | 7839, | '1981-05-01', | 2850, | NULL, 30), |
| (7782, | 'CLARK', 'MANAGER', | 7839, | '1981-06-09', | 2450, | NULL, 10), |
| (7839, | 'KING', 'PRESIDENT', NULL, '1981-11-17', 5000, NULL, 10), | | | | |
| (7902, | 'FORD', 'ANALYST', 7566, '1981-12-03', 3000, NULL, 20), | | | | |
| (7934, | 'MILLER', 'CLERK', 7782, '1982-01-23', 1300, NULL, 10); | | | | |

INSERT INTO JOB\_HISTORY (EMPNO, START\_DATE, END\_DATE, JOB, DEPTNO) VALUES (7369, '2019-01-01', '2020-12-31', 'INTERN', 20),

(7369, '2021-01-01', '2022-12-31', 'ASSISTANT CLERK', 20),

(7499, '2018-03-01', '2019-12-31', 'JUNIOR SALESMAN', 30),

(7499, '2020-01-01', '2021-12-31', 'SALESMAN', 30),

(7521, '2017-05-15', '2019-05-15', 'TRAINEE', 30),

(7521, '2019-05-16', '2020-12-31', 'SALESMAN', 30),

(7566, '2015-04-02', '2018-12-31', 'ASSISTANT MANAGER', 20),

(7566, '2019-01-01', '2021-12-31', 'MANAGER', 20),

(7698, '2016-05-01', '2019-04-30', 'ASSISTANT MANAGER', 30),

(7698, '2019-05-01', '2022-12-31', 'MANAGER', 30),

(7782, '2016-06-09', '2018-06-08', 'SUPERVISOR', 10),

(7782, '2018-06-09', '2021-06-08', 'MANAGER', 10),

(7839, '2010-11-17', '2015-11-16', 'VICE PRESIDENT', 10),

(7839, '2015-11-17', '2023-12-31', 'PRESIDENT', 10),

(7902, '2017-12-03', '2019-12-02', 'SENIOR ANALYST', 20),

(7902, '2019-12-03', '2022-12-02', 'ANALYST', 20),

(7934, '2016-01-23', '2018-01-22', 'JUNIOR CLERK', 10),

(7934, '2018-01-23', '2020-01-22', 'CLERK', 10);