

SQL Practice Questions with Reference Tables

■ Reference Table: EMPLOYEE

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

■ Reference Table: DEPARTMENT

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

Section 1: JOIN

Intermediate (20)

1. List employees with their department names.
2. Display all employees and their department location.
3. Show employees working in DALLAS.
4. Display managers and their department names.
5. List all departments and their employees (LEFT JOIN).
6. Show all departments including those with no employees (RIGHT JOIN).
7. Display employees without a department (LEFT JOIN + NULL).
8. List departments with no employees.
9. Show employees and department names, sorted by department.
10. Display employee names and managers' names (SELF JOIN).
11. List employees and their managers with department location.
12. Show employees who work in the same department as SCOTT.
13. Display employees in the same job as someone in dept 30.
14. Find employees who joined before their manager.
15. Show department names with employee count.
16. List employees and departments where deptno = 20.
17. Show department names and max salary in that department.
18. List employees whose manager is in a different department.
19. Display employees who have the same job as KING.
20. Show departments that have at least 2 managers.

Advanced (20)

1. Display all employees with their managers and both department names.
2. Find employees whose department location differs from their manager's department.
3. Show employees earning more than the average salary of their department (JOIN + subquery).
4. Display employees with the same salary as someone in another department.
5. List departments where no managers work.
6. Show employees who work in departments with no CLERK.
7. Find employees whose salary is greater than all in dept 30.
8. Display employees who are the only one in their department.
9. Show employees who joined before the earliest employee in their department.
10. Display all employees and their managers recursively (multi self join).
11. Show departments with employees earning above company average.
12. List departments where total salary > 9000.
13. Find employees in departments located in NEW YORK but whose managers are in CHICAGO.
14. Show employees earning more than the max salary of dept 10.

15. List departments with at least 3 different jobs.
16. Show employees who work in a department with no commission-based employees.
17. Find employees with the same job as someone in RESEARCH but not in RESEARCH.
18. Show employees who joined later than all employees in their department.
19. Display department with maximum difference between highest and lowest salary.
20. Find employees whose managers joined after them.

Section 2: Subqueries

Intermediate (20)

1. List employees earning more than 2000.
2. Show employees with salary greater than average salary.
3. Find employees working in the department with KING.
4. Display employees with the same job as JONES.
5. Show employees earning more than MILLER.
6. Find employees who earn the max salary in dept 30.
7. Show employees whose salary is less than any SALESMAN.
8. List employees who earn more than the average of dept 20.
9. Show departments where average salary > 2000.
10. Display employees earning equal to min salary of dept 10.
11. Find employees hired after all in dept 20.
12. Show employees working in departments where no SALESMAN exists.
13. Display employees earning more than all CLERKs.
14. Find employees with the same commission as WARD.
15. Show employees earning between min and max salary in their dept.
16. Display employees who joined before their manager (subquery).
17. List employees in departments located in BOSTON.
18. Find employees whose job exists in dept 10.
19. Show department with highest average salary.
20. Display employees whose salary is greater than company's overall average.

Advanced (20)

1. Find employees earning more than the highest salary of dept 20.
2. Show employees earning less than the lowest in dept 30.
3. Display employees whose salary matches someone in another dept.
4. Find employees whose manager's salary is less than theirs.
5. Show departments that have employees with salary = company's max salary.
6. Find employees working in department with min average salary.
7. List employees who earn more than dept average but less than company avg.
8. Display employees whose commission > average commission.
9. Show employees hired before the earliest hiredate in SALES.
10. Find employees who have the same job as an employee in RESEARCH but not in RESEARCH.
11. Display employees whose salary = 2nd highest in company.
12. Find employees earning more than sum of salaries of dept 10.
13. Show departments where max salary < min salary of dept 20.
14. List employees whose job exists only in dept 30.

15. Find departments where no SALESMAN works.
16. Show employees hired in the same year as JONES.
17. Display employees who have the same salary as someone in their dept.
18. Find employees whose commission = max commission.
19. Show employees whose salary is within top 3 of company.
20. List employees not working in any department (NULL check with subquery).

Section 3: MIN & MAX

Intermediate (20)

1. Show min and max salary of employees.
2. Show min and max salary for each department.
3. Display employee(s) with max salary.
4. Display employee(s) with min salary.
5. Find department with highest max salary.
6. Find department with lowest min salary.
7. Show employees with same salary as company max salary.
8. Show employees with same salary as dept min salary.
9. Find employee with earliest hire date.
10. Show employee with latest hire date.
11. Display department with min average salary.
12. Find job with max salary.
13. List employees earning min salary in each dept.
14. List employees earning max salary in each dept.
15. Show dept with greatest salary range (max-min).
16. Find job title with highest average salary.
17. Show dept with earliest hired employee.
18. Show dept with latest hired employee.
19. Find employees with salary = min salary in dept 20.
20. Find employees with salary = max salary in dept 30.

Advanced (20)

1. Show 2nd highest salary in company.
2. Show 2nd lowest salary in company.
3. Find dept with 2nd highest max salary.
4. Find employees earning top 3 salaries.
5. Find employees earning bottom 3 salaries.
6. Show employees earning 2nd highest in each dept.
7. Show employees earning 2nd lowest in each dept.
8. List employees whose salary > min salary in another dept.
9. Find dept with widest salary gap.
10. Show employees with same salary as min of dept 10.
11. Find employees earning more than max salary of dept 30.
12. Find employees earning less than min salary of dept 20.
13. Display employees earning median salary.
14. Find dept with employees earning max commission.

15. Show employees with earliest hire date per job.
16. Show employees with latest hire date per job.
17. Find employees hired earliest overall.
18. Find employees hired latest overall.
19. Show department where min salary > company avg salary.
20. Find department where max salary < company avg salary.

Section 4: DELETE

Intermediate (20)

1. Delete employees with salary < 1000.
2. Delete employees in dept 30.
3. Delete employees with no manager.
4. Delete all clerks.
5. Delete employees earning less than dept avg.
6. Delete employees in NEW YORK.
7. Delete employees with commission = 0.
8. Delete employees with null commission.
9. Delete employees in department with no managers.
10. Delete employees not in any dept.
11. Delete employees with job SALESMAN and salary < 1500.
12. Delete employees in dept with min avg salary.
13. Delete employees who joined before 1981.
14. Delete employees with duplicate salary in same dept.
15. Delete employees not working in RESEARCH or SALES.
16. Delete employees with salary > max of dept 20.
17. Delete employees earning < min salary in company.
18. Delete employees not assigned a dept.
19. Delete employees with salary > company avg salary.
20. Delete employees hired after 1987.

Advanced (20)

1. Delete employees earning more than manager.
2. Delete employees whose dept location is BOSTON.
3. Delete all managers except KING.
4. Delete employees hired after their manager.
5. Delete employees with job not present in dept 10.
6. Delete employees earning equal to max of dept 30.
7. Delete employees whose salary < min salary of company.
8. Delete employees not working in dept with min avg salary.
9. Delete employees hired before the earliest in dept 20.
10. Delete employees earning more than avg of company.
11. Delete employees with commission less than dept avg.
12. Delete all SALESMAN in dept 30.
13. Delete employees not in dept 10,20,30.
14. Delete employees whose job exists only in dept 30.

15. Delete employees hired in same year as SCOTT.
16. Delete employees earning 2nd highest salary.
17. Delete employees hired after 1985 in SALES.
18. Delete employees not reporting to KING.
19. Delete employees earning same as MILLER.
20. Delete employees in department with no SALESMAN.

Section 5: UPDATE

Intermediate (20)

1. Update salary of all SALESMAN by 10%.
2. Update commission = 0 where NULL.
3. Update deptno of employees in NEW YORK to 50.
4. Update all CLERKs salary by +200.
5. Update manager of MILLER to KING.
6. Update job of SCOTT to MANAGER.
7. Update hiredate of ADAMS to current date.
8. Update salary of employees earning below avg salary = avg salary.
9. Update dept of employees with no manager to OPERATIONS.
10. Update commission of SALESMAN to 1000 if null.
11. Update deptno of FORD to 30.
12. Update salary of BLAKE to 4000.
13. Update all employees in RESEARCH to dept 40.
14. Update salary of employees with job ANALYST by +500.
15. Update hiredate of KING to 01-JAN-1980.
16. Update salary of all managers to $1.2 \times \text{salary}$.
17. Update commission of WARD to 800.
18. Update dept location of SALES to LOS ANGELES.
19. Update job of SMITH to ANALYST.
20. Update all employees with salary < 1000 to 1000.

Advanced (20)

1. Update salary of employees earning less than manager = manager's salary.
2. Update dept of employees without job = OPERATIONS.
3. Update all employees in dept with min avg salary to dept 40.
4. Update hiredate of employees hired before 1981 to 01-JAN-81.
5. Update all SALESMAN's commission to 20% of salary.
6. Update salary of employees in dept with max avg salary by +1000.
7. Update job of employees with same job as JONES to SENIOR_.
8. Update dept location of dept with no employees to HYDERABAD.
9. Update salary of employees earning top 3 salaries by +500.
10. Update commission of SALESMAN in dept 30 to 2000.
11. Update dept of employees whose manager is KING to 10.
12. Update salary of employees hired latest to 6000.
13. Update salary of employees hired earliest to 700.
14. Update job of employees not in dept 10,20,30 to TEMP.

15. Update salary of employees with duplicate salary in same dept = salary + 100.
16. Update dept location of ACCOUNTING to LONDON.
17. Update all CLERK salaries to min salary of company.
18. Update job of employees in dept with max salary employee to SPECIALIST.
19. Update salary of KING = salary + 2000.
20. Update hiredate of employees earning same as MILLER to current date.