



10 SQL Tricky Queries

Interview Questions

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Two SQL tables – taken for study

```
SELECT * FROM tblEmployee  
SELECT * FROM tblDepartment
```

	EmpId	EmpName	ManagerId	DeptId	Salary
1	1	Sachin	3	1	6000
2	2	Rahul	3	1	7000
3	3	Sourav	5	1	10000
4	4	Kapil	5	1	8000
5	5	Gavaskar	0	1	9000
6	6	Mohit	7	2	6000
7	7	Paras	0	2	8000
8	8	Sourav	5	1	10000

	DeptId	DeptName
1	1	IT
2	2	Admin

1. Find duplicate records in a table

```
-- find duplicate records in a table  
SELECT EmpName, Salary, COUNT(*) AS CNT  
FROM tblEmployee  
GROUP BY EmpName, Salary  
HAVING COUNT(*) > 1
```

Tip : Use Count(*), Group by, having

2. Delete all the duplicate records in a table

Tip : CTE,
ROW_NUMBER(),
PARTITION

```
-- delete all the duplicate records in a table
WITH cte AS (
    SELECT
        EmpName, Salary,
        ROW_NUMBER() OVER (
            PARTITION BY
                EmpName, Salary
            ORDER BY
                EmpName, Salary
        ) row_num
    FROM
        tblEmployee
)
DELETE FROM cte WHERE row_num > 1;
```

3. Find the manager name for the employee where empid and managerid are in the same table

```
-- find the manager name for the employee
-- where empid and managerid are on the same table
SELECT e.EmpId, e.EmpName, m.EmpName
FROM tblEmployee e
LEFT JOIN tblEmployee m
on e.ManagerId = m.EmpId
```

Tip : Use self join with alias

4. Find the second highest salary

```
-- find the second highest salary
Select max(Salary) as Salary
... FROM tblEmployee
... WHERE Salary < (Select max(Salary) from tblEmployee)
-- 1. Inner Query -- Get the highest salary
-- 2. Outer Query -- Get the highest salary excluding the highest salary
... | ... | ... | ... | ... -- gives the second highest salary
```

Tip : Use max() function, subquery

5. Find the employee with the second highest salary

```
-- find the employee with the second highest salary
SELECT * FROM tblEmployee where Salary in
(SELECT max(Salary) as Salary
FROM tblEmployee
WHERE Salary < (Select max(Salary) FROM tblEmployee) )
```

Tip : Use max() function, subquery, outer query

6. Find 3rd and Nth highest salary

```
-- 3rd and Nth highest salary
SELECT MIN(Salary) FROM      -- OUTER QUERY
( SELECT DISTINCT TOP 3 Salary -- INNER QUERY
  FROM tblEmployee
  ORDER BY Salary DESC
) AS O
-- Here 3 can be changed to N ; can be applied for any number.
-- 1. Inner Query -- Get the highest 3 salaries
-- 2. Outer Query -- Get the minimum salary from those salaries
```

Tip : inner query, outer query

7. Find maximum salary from each department

```
-- query to find maximum salary from each department  
SELECT DeptId, MAX(Salary) as Salary  
FROM tblEmployee  
GROUP BY DeptId
```

Tip : Use max() function, group by

8. Alternative for TOP clause in SQL

```
--alternative for TOP clause in SQL  
SELECT TOP 3 * FROM tblEmployee  
--Alternative  
SET ROWCOUNT 3  
Select * from tblEmployee  
SET ROWCOUNT 0
```

Tip : Use ROWCOUNT

9. Show single or same row from a table twice in the results

```
-- showing single row from a table twice in the results  
SELECT deptname FROM tblDepartment d WHERE d.deptname='IT' . .  
UNION ALL  
SELECT deptname FROM tblDepartment d WHERE d.deptname='IT' . .
```

Tip : Use UNION ALL

10. Find departments that have less than 3 employees

```
-- find departments that have less than 3 employees
SELECT e.DeptId, d.DeptName
FROM tblEmployee e
JOIN tblDepartment d on e.DeptId = d.DeptId
GROUP BY e.DeptId, d.DeptName HAVING COUNT(EmpId) < 3
```

Tip : Use max() function, subquery

Thank you ☺

