

SQL

15 SQL questions to practice before Interview

Q1. Find the second highest salary?



```
SELECT MAX(Salary) AS SecondHighestSalary  
FROM Employees  
WHERE Salary < (SELECT MAX(Salary) FROM Employees);
```

Q2. Find employees hired in the last 6 months?



```
SELECT *  
FROM Employees  
WHERE HireDate >= DATEADD(MONTH, -6, GETDATE());
```

Q3. Retrieve top 3 employees by salary in each department?



```
SELECT DepartmentID, EmployeeID, Salary  
FROM (  
    SELECT DepartmentID, EmployeeID, Salary,  
        ROW_NUMBER() OVER (PARTITION BY DepartmentID ORDER BY Salary DESC) AS rn  
    FROM Employees  
) AS t  
WHERE rn <= 3;
```

Q4. Find employees who never placed an order?



```
SELECT e.EmployeeID, e.EmployeeName  
FROM Employees e  
LEFT JOIN Orders o ON e.EmployeeID = o.EmployeeID  
WHERE o.EmployeeID IS NULL;
```

Q5. Calculate cumulative sales by month?



```
SELECT
    FORMAT(OrderDate, 'yyyy-MM') AS OrderMonth,
    SUM(Sales) OVER
        (ORDER BY FORMAT(OrderDate, 'yyyy-MM')) AS CumulativeSales
FROM Orders;
```

Q6. Get department-wise average salary, rounded to 2 decimals?



```
SELECT DepartmentID, ROUND(AVG(Salary), 2) AS AvgSalary
FROM Employees
GROUP BY DepartmentID;
```

Q7. Find customers who placed more than 5 orders?



```
SELECT CustomerID, COUNT(*) AS OrderCount
FROM Orders
GROUP BY CustomerID
HAVING COUNT(*) > 5;
```

Q8. Find the longest trip distance from Trips table?



```
SELECT TOP 1 TripID, Distance
FROM Trips
ORDER BY Distance DESC;
```

Q9. Find all weekends orders?



```
SELECT *
FROM Orders
WHERE DATENAME(WEEKDAY, OrderDate) IN ('Saturday', 'Sunday');
```

Q10. Find employees with salary above department average?

```
SELECT e.EmployeeID, e.Salary, e.DepartmentID
FROM Employees e
JOIN (
    SELECT DepartmentID, AVG(Salary) AS DeptAvg
    FROM Employees
    GROUP BY DepartmentID
) d ON e.DepartmentID = d.DepartmentID
WHERE e.Salary > d.DeptAvg;
```

Q11. Find duplicate employee names?

```
SELECT EmployeeName, COUNT(*) AS CountOfName
FROM Employees
GROUP BY EmployeeName
HAVING COUNT(*) > 1;
```

Q12. Rank products by sales amount?

```
SELECT ProductID, SUM(Sales) AS TotalSales,
       RANK() OVER (ORDER BY SUM(Sales) DESC) AS SalesRank
FROM Orders
GROUP BY ProductID;
```

Q13. Find the most frequent customer city?

```
SELECT TOP 1 City, COUNT(*) AS OrderCount
FROM Customers
GROUP BY City
ORDER BY OrderCount DESC;
```

Q14. Calculate variance and standard deviation of salary?



```
SELECT  
    VAR(Salary) AS SalaryVariance,  
    STDEV(Salary) AS SalaryStdDev  
FROM Employees;
```

Q15. Show only first 3 characters of employee names?



```
SELECT LEFT(EmployeeName, 3) AS ShortName  
FROM Employees;
```