# SQL Questions with Sample Tables & Answers

## Sample Tables

### Employees

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EmpID | Name | Salary | DeptID | ManagerID |
| 1 | Alice | 9000 | 10 | NULL |
| 2 | Bob | 6000 | 20 | 1 |
| 3 | Charlie | 6000 | 20 | 1 |
| 4 | David | 8000 | 10 | 2 |
| 5 | Eve | 7500 | 30 | 2 |
| 6 | Frank | 5000 | 30 | 3 |
| 7 | Grace | 9500 | 10 | 1 |
| 8 | Heidi | 7000 | 20 | 3 |

### Departments

|  |  |
| --- | --- |
| DeptID | DeptName |
| 10 | HR |
| 20 | IT |
| 30 | Finance |

## Find the second highest salary

SQL Query:

**SELECT MAX(Salary) AS SecondHighest  
FROM Employees  
WHERE Salary < (SELECT MAX(Salary) FROM Employees);**

Output:

|  |
| --- |
| SecondHighest |
| 9000 |

## Detect duplicate records (salaries)

SQL Query:

**SELECT Salary, COUNT(\*) AS Count  
FROM Employees  
GROUP BY Salary  
HAVING COUNT(\*) > 1;**

Output:

|  |  |
| --- | --- |
| Salary | Count |
| 6000 | 2 |

## Count employees in each department

SQL Query:

**SELECT d.DeptName, COUNT(e.EmpID) AS NumEmployees  
FROM Employees e  
JOIN Departments d ON e.DeptID = d.DeptID  
GROUP BY d.DeptName;**

Output:

|  |  |
| --- | --- |
| DeptName | NumEmployees |
| HR | 3 |
| IT | 3 |
| Finance | 2 |

## Pull employees earning above average salary

SQL Query:

**SELECT Name, Salary  
FROM Employees  
WHERE Salary > (SELECT AVG(Salary) FROM Employees);**

Output:

|  |  |
| --- | --- |
| Name | Salary |
| Alice | 9000 |
| David | 8000 |
| Grace | 9500 |

## Get the Nth highest salary (e.g., 3rd highest)

SQL Query:

**SELECT Salary  
FROM Employees e1  
WHERE 2 = (  
 SELECT COUNT(DISTINCT Salary)  
 FROM Employees e2  
 WHERE e2.Salary > e1.Salary  
);**

Output:

|  |
| --- |
| Salary |
| 8000 |

## List employees with no manager

SQL Query:

SELECT Name  
FROM Employees  
WHERE ManagerID IS NULL;

Output:

|  |
| --- |
| Name |
| Alice |

## Show departments with more than 5 employees

SQL Query:

**SELECT d.DeptName, COUNT(e.EmpID) AS NumEmployees  
FROM Employees e  
JOIN Departments d ON e.DeptID = d.DeptID  
GROUP BY d.DeptName  
HAVING COUNT(e.EmpID) > 5;**

Output:

|  |  |
| --- | --- |
| DeptName | NumEmployees |

## Names that start with ‘A’

SQL Query:

**SELECT Name  
FROM Employees  
WHERE Name LIKE 'A%';**

Output:

|  |
| --- |
| Name |
| Alice |

## The highest salary by department

SQL Query:

**SELECT d.DeptName, MAX(e.Salary) AS HighestSalary  
FROM Employees e  
JOIN Departments d ON e.DeptID = d.DeptID  
GROUP BY d.DeptName;**

Output:

|  |  |
| --- | --- |
| DeptName | HighestSalary |
| HR | 9500 |
| IT | 7000 |
| Finance | 7500 |

## Join employees & departments to see who works where

SQL Query:

**SELECT e.Name, d.DeptName  
FROM Employees e  
JOIN Departments d ON e.DeptID = d.DeptID**;

Output:

|  |  |
| --- | --- |
| Name | DeptName |
| Alice | HR |
| Bob | IT |
| Charlie | IT |
| David | HR |
| Eve | Finance |
| Frank | Finance |
| Grace | HR |
| Heidi | IT |