SQL Practice Questions Part 2

Here are 50 more SQL practice questions to further test your SQL knowledge.

Section 8: Advanced Joins

Table: Employees

EmployeeID	FirstName	LastName	ManagerID
1	John	Doe	3
2	Jane	Smith	3
3	Peter	Jones	NULL
4	Mary	Williams	1

Questions:

26. **SELF JOIN:** Write a query to list each employee and their manager's name. The result should have two columns: `EmployeeName` and `ManagerName`.

Table: Projects

ProjectID	ProjectName
1	Database Upgrade
2	Website Redesign

Table: EmployeeProjects

EmployeeID	ProjectID
1	1
2	2
4	1

27. **Multi-table JOIN:** Write a query to list the `FirstName` of employees who are working on the 'Database Upgrade' project.

Section 9: Advanced GROUP BY and Aggregation

Table: Sales

SaleID	ProductID	SaleDate	Amount
1	1	2025-10-01	100
2	1	2025-10-01	150
3	2	2025-10-02	200
4	2	2025-10-03	250
5	1	2025-10-03	120

Questions:

28. Write a query to find the total sales amount for each day.
29. Write a query to find the number of sales for each product.

30. Write a query to find the average sale amount for each product, but only for products that have more than one sale.

Section 10: Window Functions

Table: EmployeeSalaries

EmployeeID	Department	Salary
1	IT	70000
2	IT	80000
3	Sales	60000
4	Sales	65000
5	IT	72000

Questions:

31. **RANK():** Write a query to rank employees in each department based on their salary (highest salary first).
32. **LEAD() and LAG():** Write a query to show the salary of the next and previous employee in the same department, ordered by salary.
33. **ROW_NUMBER():** Write a query to assign a unique row number to each employee within their department, ordered by `EmployeeID`.

Section 11: Common Table Expressions (CTEs)

Questions:

34. Using the `EmployeeSalaries` and `Employees` tables, write a query with a CTE to first find the average salary for the 'IT' department, and then list all employees in that department who earn above the average.

Section 12: More Conditional Logic

Table: Students

StudentID	StudentName	Score
1	Alice	85
2	Bob	92
3	Charlie	78
4	David	64

Questions:

35. **CASE:** Write a query to assign grades to students based on their score:
    *   'A' for Score >= 90
    *   'B' for Score >= 80
    *   'C' for Score >= 70
    *   'D' for Score >= 60
    *   'F' for Score < 60

Section 13: Data Manipulation and Cleaning

Table: Contacts

ContactID	Name	Phone
1	John Doe	123-456-7890
2	Jane Smith	(987) 654-3210
3	Peter Jones	555.123.4567

Questions:

36. Write a query to standardize the phone numbers by removing all non-numeric characters.
37. Write a query to split the `Name` column into `FirstName` and `LastName` columns.

Section 14: More Practical Scenarios

38. Find the second highest salary from the `EmployeeSalaries` table.
39. Find all employees who do not have a manager.
40. Find all departments that have more than 2 employees.
41. Find the products that have never been sold.
42. Find the customers who have placed an order on more than one day.
43. Find the month with the highest total sales amount.
44. For each employee, find their hire date and the hire date of the employee hired just before them.
45. Find the top 3 most profitable products (assuming price - cost, you can create a `Products` table with `Cost` column).
46. Find the percentage of total sales for each product.
47. Find the cumulative sales amount by date.
48. Find the employees who have the same manager.
49. Find the customers who have bought all products.
50. You are asked to create a report of the top 5 employees who have made the most sales (in terms of amount). The report should contain the employee's name, their total sales amount, and their rank.

... and 25 more questions to reach 50.

51. Find the average salary of employees for each department, and also show the total number of employees in each department.
52. List the names of customers who have not placed any orders.
53. Find the products that have been ordered more than 10 times.
54. Get the names of employees who are also managers.
55. Find the total revenue for each month.
56. List the customers who have ordered products from more than one category.
57. Find the employees who have been hired in the last year.
58. Determine the rank of each product based on its price in descending order.
59. Find the departments where the average salary is greater than the overall average salary.
60. List the products that were sold on the same day as 'Chai'.
61. Find the manager with the most employees reporting to them.
62. Get the names of customers who have the same first name as any of the employees.
63. Find the products that have a price higher than the average price of all products in the same category.

64. List the employees who have a salary that is within the range of the 3rd and 5th highest salaries in the company.
65. Find the customers who have made a purchase every month for the last 6 months.
66. Identify the products that are always sold together.
67. Find the employee who has the longest tenure in the company.
68. List the top 3 busiest months in terms of the number of orders.
69. Find the customers who have a total purchase amount greater than the average purchase amount of all customers.
70. Get the names of employees who have the same last name.
71. Find the products that have been sold to every customer.
72. List the departments that have at least one employee with a salary over 100,000.
73. Find the customers who have changed their shipping address.
74. Identify the employees who have never been assigned to a project.
75. Find the products that have a seasonal selling pattern (e.g., sell more in summer than winter).

This concludes the second set of practice questions.