

Scenario 1: Employee Salary Analysis

Question:

Find the names and salaries of employees who earn more than the average salary in the company.

Answer:

1. Use the SELECT query with name & salary from employees table
2. Then use subquery for AVG Salary and with WHERE condition of Salary

Query:

```
SELECT name,salary FROM employees  
  
WHERE salary > (select avg(salary) FROM employees)
```

Scenario 2: Customer Orders without Matching Records

Question:

Retrieve a list of customer names who have not placed any orders.

Answer:

1. Use SELECT query with Customer Name in Customer table
2. And take Order details column from Order table
3. Use FULL OUTER JOIN
4. Use WHERE condition with take null orders

Query:

```
SELECT c.Customer_Name, O.Order_Details  
  
FROM Customers c FULL OUTER JOIN Orders O  
  
ON c.Customer_id = O.Customer_id  
  
WHERE O.Order_details IS NULL;
```

Scenario 3: Product Sales Summary

Question:

Display the total sales amount for each product.

Answer:

1. Use SELECT query with Product & Sum of Sales
2. Group by the Product column

Query:

```
SELECT Product, Sum(Sales)

FROM Sales

GROUP BY Product
```

Scenario 4: Department-Wise Employee Count

Question:

List each department name with the number of employees working in it.

Answer:

1. Use SELECT query to take Department name from Department table
2. And take Employee id from Employees table and use count aggregation
3. Use Inner join with matching Department id in both tables
4. Finally use group by Department name

Query:

```
SELECT d.department_name, count(e.employee_id) as Employee_Count FROM employees e

INNER JOIN departments d

ON e.department_id = d.department_id

GROUP BY d.department_name
```

Scenario 5: Top 3 Highest Sales

Question:

Find the top 3 highest sales transactions.

Answer:

1. Use SELECT query to take amount from Sales table
2. Use Order by with descending order for amount
3. And use limit 3

Query:

```
SELECT amount FROM sales ORDER BY amount desc limit 3
```

Scenario 6: Calculate Employee Salary Ranks by Department

Question:

Write a query to display each employee's name, department name, salary, and their salary rank within their respective department.

Answer:

1. Use Select query with take department name from Department table
2. And take Employee Salary from Employee table
3. Use Rank () Over function with Order by Salary and Descending order

Query:

```
SELECT d.department_name, e.salary, RANK() OVER (ORDER BY e.salary desc) as  
Salary_Rank FROM Employees e  
INNER JOIN Departments d  
ON e.department_id=d.department_id;
```