**Basic Queries**

1. **Retrieve All Records:**
   * Display all rows and columns from the customer’s table.
   * List all products with their prices from the products table.
2. **Filter Data:**
   * Find all customers from "New York."
   * Show all products in the "Electronics" category priced above $500.
3. **Sorting:**
   * Retrieve the list of orders sorted by OrderDate in descending order.
   * List the products sorted by price (highest to lowest).
4. **Aggregate Functions:**
   * Count the total number of customers.
   * Find the average price of products in the products table.
5. **Group By:**
   * Find the total stock available for each product category.
   * Count the number of orders placed by each customer.

**Intermediate Queries**

1. **Joins:**
   * Retrieve a list of orders with customer details (e.g., FirstName, LastName).
   * Show all OrderDetails with the corresponding product name and price.
2. **Filtering with Joins:**
   * Find all orders placed by customers from "Los Angeles."
   * Show all products ordered in "2023" along with the order details.
3. **Subqueries:**
   * Find customers who have placed orders worth more than $1,000.
   * List products that have never been ordered.
4. **Aggregate Functions with Joins:**
   * Calculate the total revenue generated from each product.
   * Find the customer who placed the highest number of orders.

**Advanced Queries**

1. **Window Functions:**
   * Rank products based on their price within each category.
   * Find the cumulative revenue generated from all orders sorted by date.
2. **Complex Joins:**
   * Find customers who have ordered products from more than two categories.
   * Retrieve a list of customers who have never placed an order.
3. **Nested Queries:**
   * Find the top 5 products with the highest sales (total quantity ordered).
   * List the customers who have spent more than the average order value.
4. **CTEs (Common Table Expressions):**
   * Create a CTE to calculate the total sales for each product and find products with total sales exceeding $10,000.
   * Use a CTE to find customers who have placed more than 3 orders in 2023.
5. **Updating and Deleting:**
   * Increase the price of all products in the "Accessories" category by 10%.
   * Delete all orders placed before "2023-01-01."

**Real-Life Scenarios**

1. **Inventory Management:**
   * Find products that need restocking (stock below 50).
   * Calculate the total value of all products in stock.
2. **Customer Insights:**
   * Identify the top 3 cities with the highest number of customers.
   * Find the percentage of customers who placed an order in 2023.
3. **Revenue Analysis:**
   * Calculate the total revenue generated in each month of 2023.
   * Identify the product that generated the highest revenue in 2023.
4. **Order Trends:**
   * Analyze the trend of order volume by day of the week.
   * Find the average number of items ordered per order.

**Challenges**

1. **Data Validation:**
   * Identify any customers with duplicate emails or phone numbers.
   * Find orders with a total amount that doesn’t match the sum of the related OrderDetails.
2. **Optimization:**
   * Write a query to find the 10 most recent orders efficiently.
   * Optimize a query to find customers who have ordered all products in the "Electronics" category.