## USE Instructions:

* The assignment aims to reinforce SQL query skills using the **WideWorldImporters** database. You will write and execute SQL queries to retrieve and manipulate data using various SQL constructs covered in Chapter 6 of our SQL text.
* Write SQL queries that fulfill the requirements listed below.
* Use appropriate column names, functions, and sorting techniques where necessary.
* Ensure queries return meaningful results based on the dataset.
* Save your work as a .sql file and upload it to D2L Dropbox folder for the assignment. Use the following file naming convention: *yourFirstName\_yourLastName\_SQL\_HW\_04.sql*

**1. Basic Subquery with the IN Operator**

**Description:** Retrieve the CustomerName and CustomerID of customers who have placed orders within 30 days of the most recent order date in the database.  
**Tables:** Sales.Orders, Sales.Customers  
**Rows returned**: 624

**2. Comparing Subqueries to Joins**

**Description:** Write two queries to list the names of salespersons who have processed orders with a total order value over $10,000: one using a subquery and the other using a JOIN. *(Note: The total order value should be calculated by summing the* ***UnitPrice \* Quantity*** *from* ***Sales.OrderLines****.)*  
**Tables:** Sales.Orders, Sales.OrderLines, Application.People  
**Rows returned**: 10

**3. Subquery with Expression Comparison**

**Description:** Find all stock items whose UnitPrice is higher than the average unit price of all stock items.  
**Tables:** Warehouse.StockItems  
**Rows returned**: 27

**4. Using the ALL Keyword**

**Description:** Retrieve the CustomerName for customers whose total order value is higher than **all** customers from the same city. *(Note: Use the* ***Application.Cities*** *table to obtain city information since* ***Sales.Customers*** *does not contain the* ***CityName*** *column.)*  
**Tables:** Sales.Orders, Sales.OrderLines, Sales.Customers, Application.Cities  
**Rows returned**: 8

**5. Using ANY and SOME Keywords**

**Description:** List products whose UnitPrice is higher than **any** product in the 'Clothing' stock group. *(Note: Use the* ***Warehouse.StockGroups*** *and* ***Warehouse.StockItemStockGroups*** *tables to determine product categories.)*  
**Tables:** Warehouse.StockItems, Warehouse.StockGroups, Warehouse.StockItemStockGroups  
**Rows returned**: 400

**6. Correlated Subquery**

**Description:** Retrieve a list of customers and the number of orders they placed, only including customers with more than 140 orders.  
**Tables:** Sales.Orders, Sales.Customers  
**Rows returned**: 9

**7. Using EXISTS Operator**

**Description:** List customers who have never placed an order.  
**Tables:** Sales.Customers, Sales.Orders  
**Rows returned**: 0

**8. Subquery in the FROM Clause**

**Description:** For each salesperson, show the total sales amount and the number of orders processed.  
**Tables:** Sales.Orders, Sales.OrderLines, Application.People  
**Rows returned**: 10

**9. Subquery in the SELECT Clause**

**Description:** List all products along with the number of times they have been ordered.  
**Tables:** Sales.OrderLines, Warehouse.StockItems  
**Rows returned**: 227

**10. Complex Query with a CTE**

**Description:** Create a CTE that calculates the total order value for each customer and retrieves customers whose total order value exceeds $350,000. Use the CTE to simplify the main query and make it more readable.  
**Tables:** Sales.Orders, Sales.OrderLines, Sales.Customers  
**Rows returned**: 20

**Grading Rubric**

Each query is worth \*\*10 points\*\*, evaluated based on the following criteria:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Excellent (10 - 9 pts)** | **Good (8 - 7 pts)** | **Satisfactory (6 - 5 pts)** | **Needs Improvement (4 - 0 pts)** |
| **Correctness of Query (50%)** | Query executes without errors and returns the expected result set. | Query executes with minor logical errors but mostly correct. | Query contains errors affecting correctness. | Query does not execute properly or is incorrect. |
| **Use of Required SQL Concepts (30%)** | Successfully applies the required SQL concepts. | Uses most required SQL concepts correctly. | Uses some SQL concepts but omits key elements. | SQL concepts are misused or omitted. |
| **Query Formatting & Readability (10%)** | Query is well-structured and properly formatted. | Query is readable but could use better formatting. | Query is difficult to read with inconsistent formatting. | Query lacks readability and proper structure. |
| **Use of Proper Column Naming and Aliasing (10%)** | All columns are named meaningfully. | Most columns are appropriately named. | Some columns are meaningfully named. | Column naming and aliasing are unclear or missing. |