## 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 3 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\_01.sql*

### **1. Code Column Specifications and Name Columns in the Result Set**

Retrieve the name, buying group ID and website of all customers from the Sales.Customers table. Rename the columns as **Customer Name**, **Buying Group**, and **Website URL** in the result set.

### **2. Code String Expressions**

Retrieve the full name of each employee from the Application.People table by concatenating their FullName with the string "- Employee". Rename the column as **Employee Full Name**.

### **3. Code Arithmetic Expressions**

Retrieve the StockItemID, UnitPrice, and a new column called **Discounted Price** from Warehouse.StockItems. The **Discounted Price** should be 90% of the **UnitPrice** (i.e., a 10% discount).

### **4. Use Functions**

Retrieve the FullName and the **length of the Full Name** from Application.People. Rename the computed column as **Name Length**.

### **5. Use DISTINCT to Eliminate Duplicate Rows**

Retrieve all **unique** cities from the Application.Cities table.

### **6. Use the TOP Clause to Return a Subset of Selected Rows**

Retrieve the **top 5 most expensive stock items** (StockItemID and UnitPrice) from the Warehouse.StockItems table, sorted in descending order of UnitPrice.

### **7. Use Comparison Operators with Logical Operators (AND, OR, NOT)**

Retrieve all customers from Sales.Customers where BuyingGroupID is greater than **1** and the IsOnCreditHold field is **false**.

### **8. Use IN, BETWEEN, and LIKE Operators**

Retrieve all stock items (StockItemName, UnitPrice) from Warehouse.StockItems where:

* The StockItemID is **either 10, 20, or 30** (use IN operator).
* The UnitPrice is **between 5 and 50** (use BETWEEN operator).
* The StockItemName **contains the word "Chocolate"** (use LIKE operator).

### **9. Use IS NULL Clause**

Retrieve all suppliers (SupplierName) from Purchasing.Suppliers where the FaxNumber is **NULL**.

### **10. Sort a Result Set by Column Name, Alias, Expression, and Column Number**

Retrieve the **top 10 orders** (InvoiceID, TransactionDate, and TransactionAmount) from the Sales.CustomerTransactions table, sorted by:

* TransactionDate in **descending order** (column name).
* TotalAmount **ascending** (alias).
* InvoiceID **descending** (column number).

**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. |