PROG8081 Database Management

Spring 2024 Individual Task 3

In this exercise, use the **AP** database to answer the following questions:

#	Question	Table(s)	Marks
	Continue to use the **SQL Coding Rules** in *PROG8081 Individual Exercise 1* *Submit both sql and rpt file.* *Please follow all standards/conventions for sql and rpt file as discussed in class and previous assignments* *Submit .zip file containing .sql and .rpt file*		
A.	**Joins**		
1.	List the Invoice Number and Vendor Name columns for invoices with a Vendor Name of 'Compuserve'. Use implicit syntax for the inner join. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 04\Figure 4-07a.sql"*	Vendors, Invoices	1
2.	List the 5 columns (Invoice Number, Vendor ID, Vendor Name, Invoice Due Date and Balance Due) for invoices with "Balance Due" greater than $500. Use explicit syntax for the inner join. Sort the result by "Balance Due" in ascending order. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 04\Figure 4-02a.sql"*	Vendors, Invoices	1
3.	List the 4 columns: Vendor ID and Vendor Name of vendors, along with the Invoice Number and Invoice Total of the vendors with vendor name that starts with 'in'. Display the vendor even if they do not have any invoices. Use explicit syntax for the outer join. Sort the result by Vendor Name in descending order. *Do not use any correlation name or table alias.* *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 04\Figure 4-08.sql"*	Vendors, Invoices	1
B.	**Aggregate Functions**		
4.	List the 3 columns for invoices with *Invoice Date* after Dec. 31, 2018. The first column displays `'After 12/31/2018'` followed by 2 columns using MIN() and MAX() aggregate functions with the *Invoice Total* column as the argument. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 05\Figure 5-02a.sql and Figure 5-02b.sql".* The column headers are: SelectionDate, LowestInvoiceTotal, and HighestInvoiceTotal.	Invoices	1

5.	Construct a summary query that groups by two columns (Vendor State and Vendor City). List the same two columns followed by the COUNT() and AVG() aggregate functions with the *Invoice Total* column as the argument. Use FORMAT() to display the Average Amount column in currency format. Sort the result by Vendor State and Vendor City columns. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 05\Figure 5-04b.sql".* The column headers are: VendorState, VendorCity, InvoiceQty, and AvgAmount.	Invoices, Vendors	1
6.	Construct a summary query with a search condition in the WHERE clause for invoices in December, 2022. The query displays the *Invoice Date* followed by the "Invoice Qty" and "Invoice Sum". Only display the result with "Invoices Qty" above 2 and "Invoice Sum" of over $1,000. Sort the result by "Invoice Date" in descending order. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 05\Figure 5-06a.sql".*	Invoices	1
C.	**Subqueries**		
7.	Construct a nested subquery that returns a list of *Invoice Number*, *Invoice Date* and *Invoice Total* columns for vendors in the state of Texas (TX). The inner query must use the Vendors table. Sort the result by *Invoice Date* in descending order. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 06\Figure 6-02b.sql".*	Invoices, Vendors	1
8.	Construct a nested subquery that returns a list of invoices for a vendor with *Invoice Total* above the *Average Invoice Total* for that vendor. Use a correlated subquery in the WHERE clause. Only include invoices with *Invoice Total* above $1,000. Order the results by *Vendor ID* in ascending order, followed by *Invoice Total* in descending order. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 06\Figure 6-07.sql".*	Invoices	1
9.	Construct a correlated subquery in the SELECT clause. Display the *Vendor Name* from the Vendors table and the "*Latest Invoice Date*" from the Invoices table. Show the *Vendor Name* and "*Latest Invoice Date*" only once (i.e., no duplicates). Only display rows with *Vendor Name* that starts with 'C'. Sort the result by the "*Latest Invoice Date*" in ascending order. *Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 06\Figure 6-10a.sql". Note: Do not use a LEFT JOIN similar to the restated query in Figure 6-10b.sql.*	Vendors, Invoices	2
			10