

PROG8081 Database Management
Spring 2024 Individual Exercise 4

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

#	Question	Table(s)	Marks																						
(a)	Continue to use the SQL Coding Rules in <i>PROG8081 Individual Exercise 1</i>																								
(b)	To recreate the AP database, ensure that all queries are done and all active connections are dropped first: i. Tasks -> Take Offline o <i>Select “Drop all active connections” checkbox</i> o <i>Click OK</i> ii. Tasks -> Bring Online iii. Run create_ap.sql																								
A.	Week 7: DML																								
1.	Remove the VendorCopyXX table (where XX is your initials), if it exists. Create a copy of the Vendors table and name it VendorCopyXX. Then, display the number of rows in the new VendorCopyXX table. <i>Hint: Study Murach’s “SQL Server 2019\Scripts\Chapter 07\Copy tables.sql”</i>	Vendors	1																						
2.	Remove the InvoiceBalancesXX table, if it exists. Create a copy of the Invoices table for invoices with a non-zero balance, and name it InvoiceBalancesXX. Then, display the number of rows in the new InvoiceBalancesXX table. <i>Hint: Study Murach’s “SQL Server 2019\Scripts\Chapter 07\Figure 7-01c.sql”</i>	Invoices	1																						
3.	Add a row to the InvoiceBalancesXX table <i>without</i> using a column list. The values for a new row are: <table><tr><th>Column</th><th>Value</th></tr><tr><td>InvoiceID</td><td>(Next available unique ID)</td></tr><tr><td>VendorID</td><td>86</td></tr><tr><td>InvoiceNumber</td><td>4591178</td></tr><tr><td>InvoiceDate</td><td>9/01/2022</td></tr><tr><td>InvoiceTotal</td><td>9,345.60</td></tr><tr><td>PaymentTotal</td><td>0</td></tr><tr><td>CreditTotal</td><td>0</td></tr><tr><td>TermsID</td><td>1</td></tr><tr><td>InvoiceDueDate</td><td>10/01/2022</td></tr><tr><td>PaymentDate</td><td>null</td></tr></table> Then, display the newly added row using the Vendor ID as part of your query. <i>Hint: Study Murach’s “SQL Server 2019\Scripts\Chapter 07\Figure 7-02a.sql”</i>	Column	Value	InvoiceID	(Next available unique ID)	VendorID	86	InvoiceNumber	4591178	InvoiceDate	9/01/2022	InvoiceTotal	9,345.60	PaymentTotal	0	CreditTotal	0	TermsID	1	InvoiceDueDate	10/01/2022	PaymentDate	null	InvoiceBalancesXX	1
Column	Value																								
InvoiceID	(Next available unique ID)																								
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InvoiceDueDate	10/01/2022																								
PaymentDate	null																								
4.	Add another row to the InvoiceBalancesXX table using a column list. The column values for the new row are: <table><tr><th>Column</th><th>Value</th></tr><tr><td>VendorID</td><td>30</td></tr><tr><td>InvoiceNumber</td><td>COSTC0345</td></tr><tr><td>InvoiceTotal</td><td>2,800.00</td></tr></table>	Column	Value	VendorID	30	InvoiceNumber	COSTC0345	InvoiceTotal	2,800.00	InvoiceBalancesXX	1														
Column	Value																								
VendorID	30																								
InvoiceNumber	COSTC0345																								
InvoiceTotal	2,800.00																								

	PaymentTotal 0 CreditTotal 0 TermsID 1 InvoiceDate (Current date: i.e., date you run SQL file) InvoiceDueDate (Current date plus 30 days) <i>Only use the columns listed above. Then, display the newly added row using the Vendor ID as part of your query.</i> <i>Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 07\Figure 7-02b.sql"</i>		
5.	Update the <i>Credit Total</i> column of the InvoiceBalancesXX table to \$300.00 for <i>Invoice Number</i> COSTCO345 added in the previous question. Then, display the updated row using the <i>Invoice Number</i> as part of your query. <i>Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 07\Figure 7-05c.sql"</i>	InvoiceBalancesXX	1
6.	Increase the <i>Credit Total</i> by \$90 for the TOP 5 invoices in the InvoiceBalancesXX table, with an unpaid balance of over \$900. Use a subquery in the FROM clause as part of your solution. Then, display the following columns: InvoiceID, InvoiceNumber, VendorID, InvoiceTotal, CreditTotal. Note the 5 rows that have Credit Total increased by \$90. <i>Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 07\Figure 7-06d.sql"</i>	InvoiceBalancesXX	1
7.	Delete a single row from the InvoiceBalancesXX table for <i>Invoice Number</i> 4591178. Then, display the entire table. Note the deleted row is no longer in the table. <i>Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 07\Figure 7-08a.sql"</i>	InvoiceBalancesXX	1
8.	Display the number of rows in the VendorCopyXX table. Then, delete rows from the VendorCopyXX table for vendors that does not have invoices in the InvoiceBalancesXX table (i.e., no vendor purchases). Use a subquery in the WHERE clause as part of your solution. Then, display the number of rows remaining in the VendorCopyXX table. <i>Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 07\Figure 7-09c.sql"</i>	VendorCopyXX, InvoiceBalancesXX	1
B.	Week 9: Transactions		
9.	Create a transaction that will attempt to delete rows from the InvoiceBalancesXX table. Declare a Vendor ID variable with the value 123 (i.e., FedEx). Use the <i>Vendor ID variable</i> to delete FedEx invoices. Rollback the transaction when there are more than one row for deletion with the message "More invoices than expected. Deletions rolled back." Otherwise, display a message that the deletion was successful. Using the <i>Vendor ID variable</i> , display the number of FedEx invoices to confirm the FedEx invoices are still in the InvoiceBalancesXX table. <i>Hint: Study Murach's "SQL Server 2019\Scripts\Chapter 16\Figure 16-02.sql"</i>	InvoiceBalancesXX	1
10.	*** Warning: Q10 will permanently add rows to the AP database. *** Display the number of rows in the Invoices and InvoiceLineItems tables. Then, add invoice and invoice line items using the transaction defined in the AP scripts under <i>"SQL Server 2019\Scripts\Chapter 16\Figure 16-01b.sql"</i> . Then, display the number of rows in the Invoices and InvoiceLineItems tables again.	Invoices, InvoiceLineItems	1
			10

