

Name: Athena George

Requirement 1: Data Loading – 10 Marks Requirement

The screenshot displays the Microsoft SQL Server Management Studio (SSMS) interface. The main window shows a query executed successfully, creating a database named 'retaildb' and a table named 'SalesTransactions' with a primary key 'TransactionID'. The execution results show 10 rows affected. The Properties window on the right displays connection details for 'EC2AMAZ-OIIIOMA'.

Query Executed:

```
create database retaildb;  
  
use retaildb;  
  
CREATE TABLE SalesTransactions (  
    TransactionID INT PRIMARY KEY,
```

Execution Results:

- (10 row(s) affected)
- (7 row(s) affected)
- (3 row(s) affected)
- (7 row(s) affected)

Properties Window - Current connection parameters:

- Aggregate Status
- Connection failure
- Elapsed time: 00:00:01.169
- Finish time: 9/15/2023 9:52:30 AM
- Name: EC2AMAZ-OIIIOMA\
- Rows returned: 0
- Start time: 9/15/2023 9:52:29 AM
- State: Open
- Connection
- Connection name: EC2AMAZ-OIIIOMA\
- Connection Details
- Connection elaps: 00:00:01.169
- Connection finish: 9/15/2023 9:52:30 AM
- Connection rows: 0
- Connection start: 9/15/2023 9:52:29 AM
- Connection state: Open
- Display name: EC2AMAZ-OIIIOMA\
- Login name: EC2AMAZ-OIIIOMA\
- Server name: EC2AMAZ-OIIIOMA\
- Server version: 12.0.2000
- Name: The name of the connection.

The screenshot displays the Microsoft Power BI Desktop application. The 'Navigator' pane on the left lists the data source 'EC2AMAZ-0IIIIOMA\SQLEXPRESS: retaildb [4]' with the following tables selected: Customers, Products, SalesTransactions, and Stores. The 'Stores' table is currently selected and its data is previewed in the center pane. The preview shows the following data:

StoreID	StoreName	Location	StoreManager
1	Downtown	New York	John Smith
2	Uptown	Los Angeles	Jane Doe
3	Suburbia	Chicago	Mike Johnson

The 'Fields' pane on the right shows various visualization options (Bar, Line, Pie, etc.) and a list of fields. The bottom status bar indicates 'Page 1 of 1' and the time '9:56 AM 9/15/2023'.

2: Data Transformation – 20 Marks

- Merge Tables:

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Untitled - Power Query Editor

File Home Transform Add Column

Close & Apply New Source Recent Sources Enter Data Data source settings Data Sources

Queries [4]

- Customers
- Products
- SalesTransactions
- Stores

1 2 3 4 5 6 7 8 9 10

Merge

Select a table and matching columns to create a merged table.

SalesTransactions

TransactionID	ProductID	StoreID	CustomerID	TransactionDate	QuantitySold	Revenue
1	101	1	1001	1/5/2023	50	500
2	102	2	1002	1/10/2023	40	600
3	103	1	1003	2/15/2023	30	300
4	104	3	1004	3/20/2023	60	900
5	101	2	1001	4/25/2023	70	700

Customers

CustomerID	CustomerName	Email	Phone
1001	Customer A	customerA@email.com	(123) 456-7890
1002	Customer B	customerB@email.com	(234) 567-8901
1003	Customer C	customerC@email.com	(345) 678-9012
1004	Customer D	customerD@email.com	(456) 789-0123
1005	Customer E	customerE@email.com	(567) 890-1234

Join Kind

Left Outer (all from first, matching from second)

☐ Use fuzzy matching to perform the merge

Fuzzy matching options

✓ The selection matches 10 of 10 rows from the first table.

OK Cancel

7 COLUMNS, 10 ROWS Column profiling based on

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Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Data Sources Parameters Refresh Preview Advanced Editor Manage Columns Reduce Rows Sort Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Transform

Queries [4]

- Customers
- Products
- SalesTransactions
- Stores

1 2 3 4 5 6 7 8 9 10

Table.ExpandTableColumn("Merged Queries", "Customers", {"CustomerID", "CustomerName", "CustomerID.1"})

TransactionID	TransactionDate	QuantitySold	Revenue	CustomerID.1
1	1001	1/5/2023	50	500
2	1002	1/10/2023	40	600
3	1003	2/15/2023	30	300
4	1004	3/20/2023	60	900
5	1001	4/25/2023	70	700
6	1002	5/30/2023	45	675
7	1005	6/5/2023	55	550
8	1006	7/10/2023	38	570
9	1007	8/15/2023	42	630
10	1005	9/20/2023	68	680

11 COLUMNS, 10 ROWS Column profiling based on top 1000 rows

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- Clean Data:

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File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Manage Columns Reduce Rows Sort Data Type: Text Use First Row as Headers Replace Values Combine Text Analytics Vision Azure Machine Learning AI Insights

Queries [4] Customers Products SalesTransactions Stores

Table.RemoveColumns(#"Expanded Customers",{"CustomerID.1"})

	QuantitySold	Revenue	CustomerName	Email	Phone
1	50	500	Customer A	customerA@email.com	(123) 456-78
2	40	600	Customer B	customerB@email.com	(234) 567-89
3	30	300	Customer C	customerC@email.com	(345) 678-90
4	60	900	Customer D	customerD@email.com	(456) 789-01
5	70	700	Customer A	customerA@email.com	(123) 456-78
6	45	675	Customer B	customerB@email.com	(234) 567-89
7	55	550	Customer E	customerE@email.com	(567) 890-12
8	38	570	Customer F	customerF@email.com	(678) 901-23
9	42	630	Customer G	customerG@email.com	(789) 012-34
10	68	680	Customer E	customerE@email.com	(567) 890-12

Query Settings

PROPERTIES

Name SalesTransactions

APPLIED STEPS

Source Navigation Merged Queries Expanded Customers Removed Columns

10 COLUMNS, 10 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 10:06 AM

10:09 AM 9/15/2023

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Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Manage Columns Reduce Rows Sort Data Type: Text Use First Row as Headers Replace Values Combine Text Analytics Vision Azure Machine Learning AI Insights

Queries [4] Customers Products SalesTransactions Stores

Table.RemoveColumns(#"Expanded Customers",{"CustomerID.1"})

	QuantitySold	Revenue	CustomerName	Email	Phone
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2	40	600	Customer B	customerB@email.com	(234) 567-89
3	30	300	Customer C	customerC@email.com	(345) 678-90
4	60	900	Customer D	customerD@email.com	(456) 789-01
5	70	700	Customer A	customerA@email.com	(123) 456-78
6	45	675	Customer B	customerB@email.com	(234) 567-89
7	55	550	Customer E	customerE@email.com	(567) 890-12
8	38	570	Customer F	customerF@email.com	(678) 901-23
9	42	630	Customer G	customerG@email.com	(789) 012-34
10	68	680	Customer E	customerE@email.com	(567) 890-12

Query Settings

PROPERTIES

Name SalesTransactions

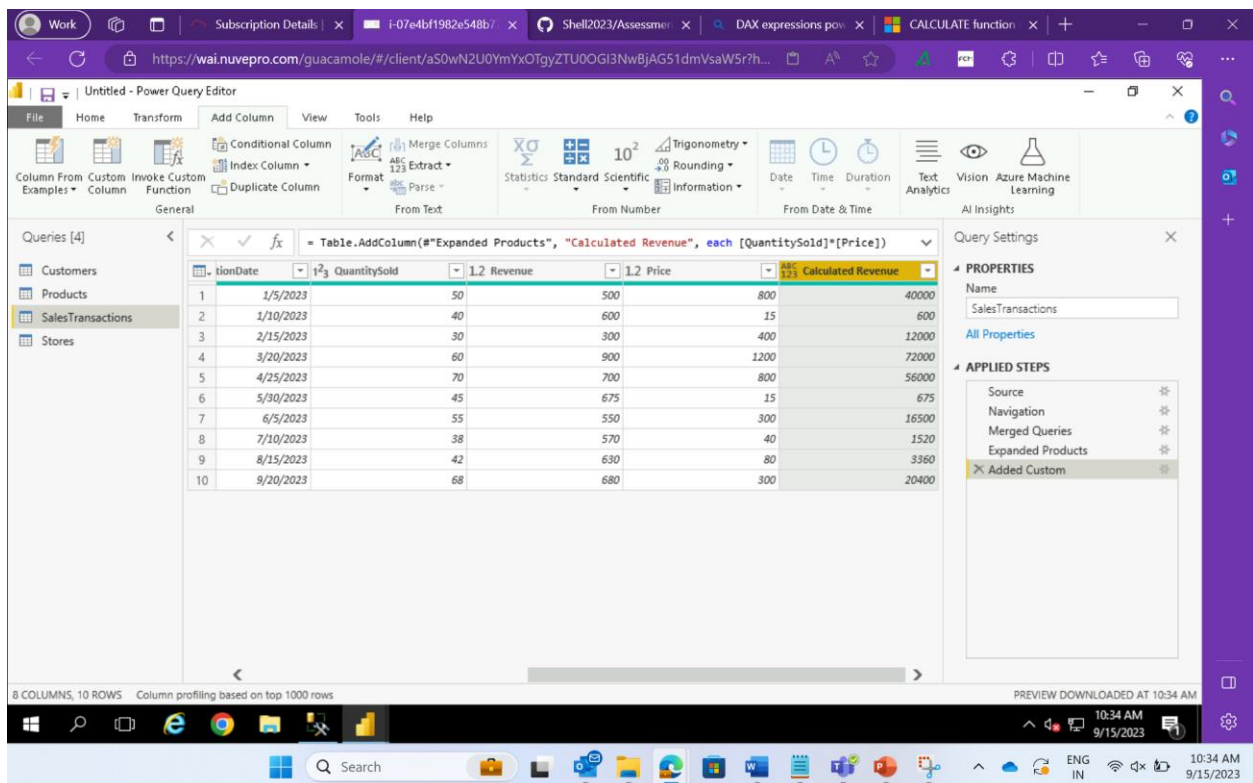
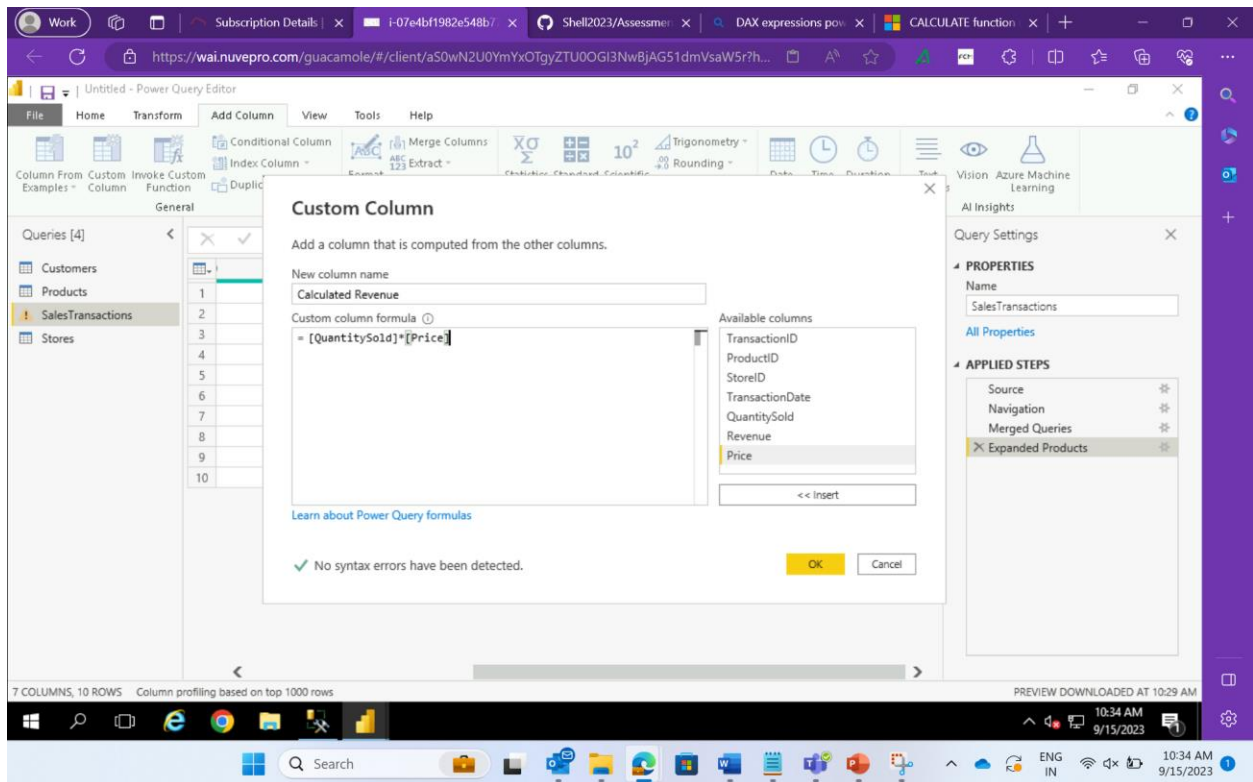
APPLIED STEPS

Source Navigation Merged Queries Expanded Customers Removed Columns

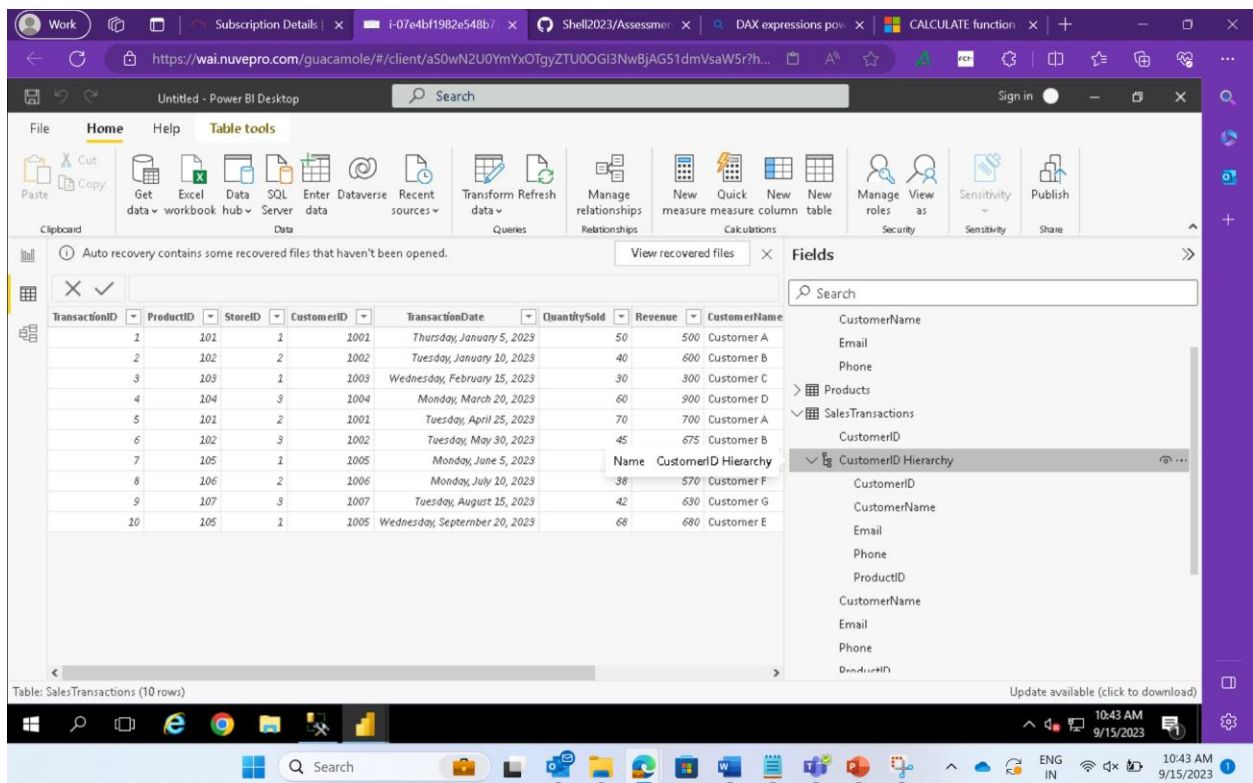
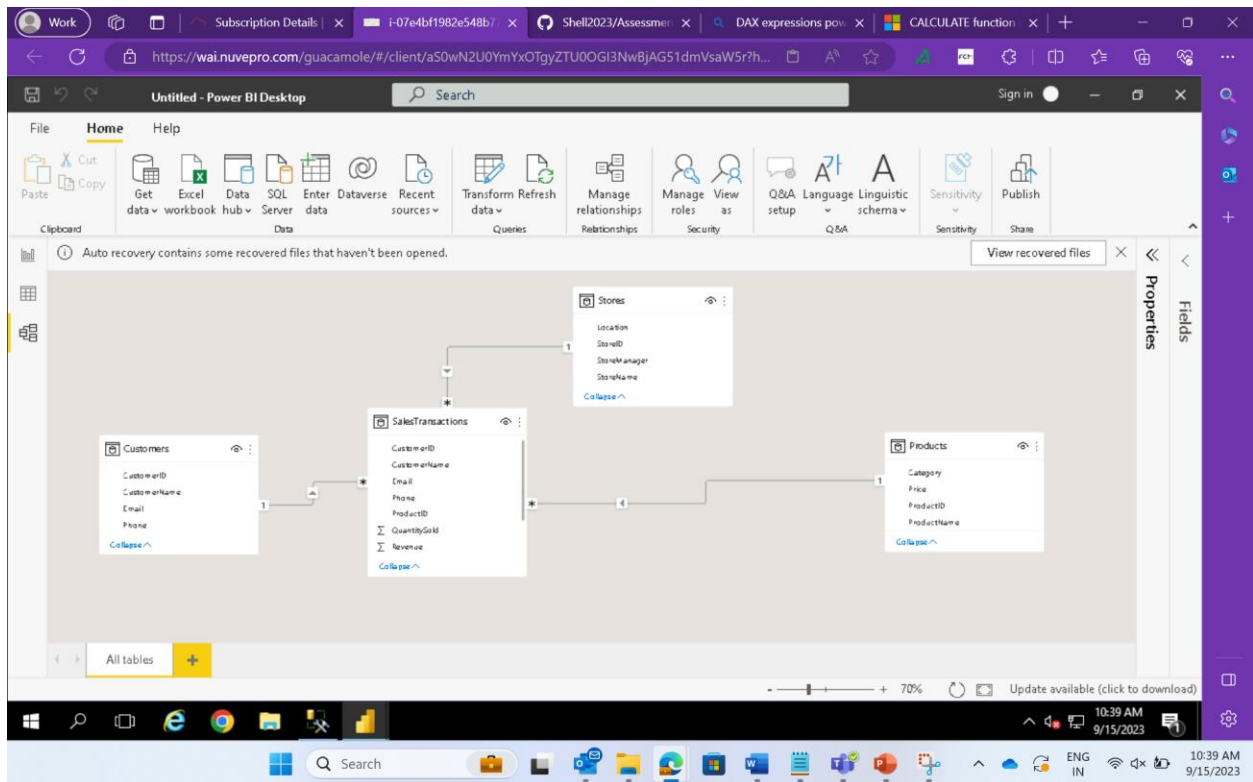
10 COLUMNS, 10 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 10:06 AM

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- Create Calculated Columns:



3: Data Modelling – 30 Marks



Requirement 4: Business Queries and Analysis – 20 Marks

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Hands-on - Power BI Desktop | Search | Sign in

File Home Insert Modeling View Help

Clipboard | Get data | Excel | Data | SQL | Enter | Dataverse | Recent | Transform Refresh | New visual | Text box | More visuals | New Quick measure | Sensitivity | Publish

Auto recovery contains some recovered files that haven't been opened.

View recovered files

Search

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Fields

Search

ProductID

ProductName

SalesTransactions

Calculated Rev...

CustomerID

CustomerID Hi...

CustomerName

Email

Phone

Price

ProductID

QuantitySold

Revenue

StoreID

TransactionDate

CustomerName	Sum of Calculated Revenue
Customer A	96000
Customer B	1275
Customer C	12000
Customer D	72000
Customer E	36900
Customer F	1520
Customer G	3360
Total	223055

Page 1 of 1

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Work | Subscription Details | f-07e4bf1982e548b7 | Shell2023/Assessment | DAX expressions | CALCULATE function |

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Hands-on - Power BI Desktop | Search | Sign in

File Home Insert Modeling View Help

Clipboard | Get data | Excel | Data | SQL | Enter | Dataverse | Recent | Transform Refresh | New visual | Text box | More visuals | New Quick measure | Sensitivity | Publish

Auto recovery contains some recovered files that haven't been opened.

View recovered files

Search

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Visualizations

Build visual

Values

Add data fields here

Drill through

Cross-report

Keep all filters

Fields

Search

ProductName

SalesTransactions

Calculated Rev...

CustomerID

CustomerID Hi...

CustomerName

Email

Phone

Price

ProductID

QuantitySold

Revenue

StoreID

TransactionDate

TransactionID

Sum of Calculated Revenue by StoreManager

StoreManager

- John Smith
- Mike Johnson
- Jane Doe

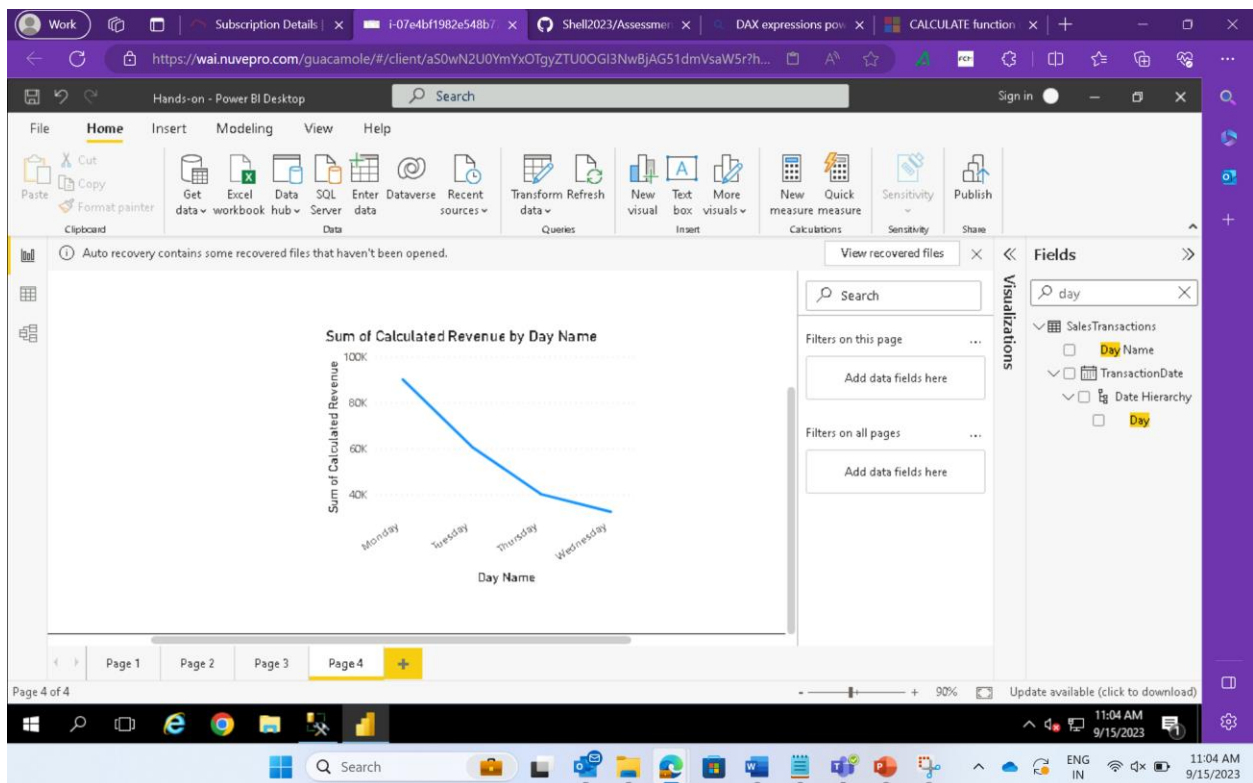
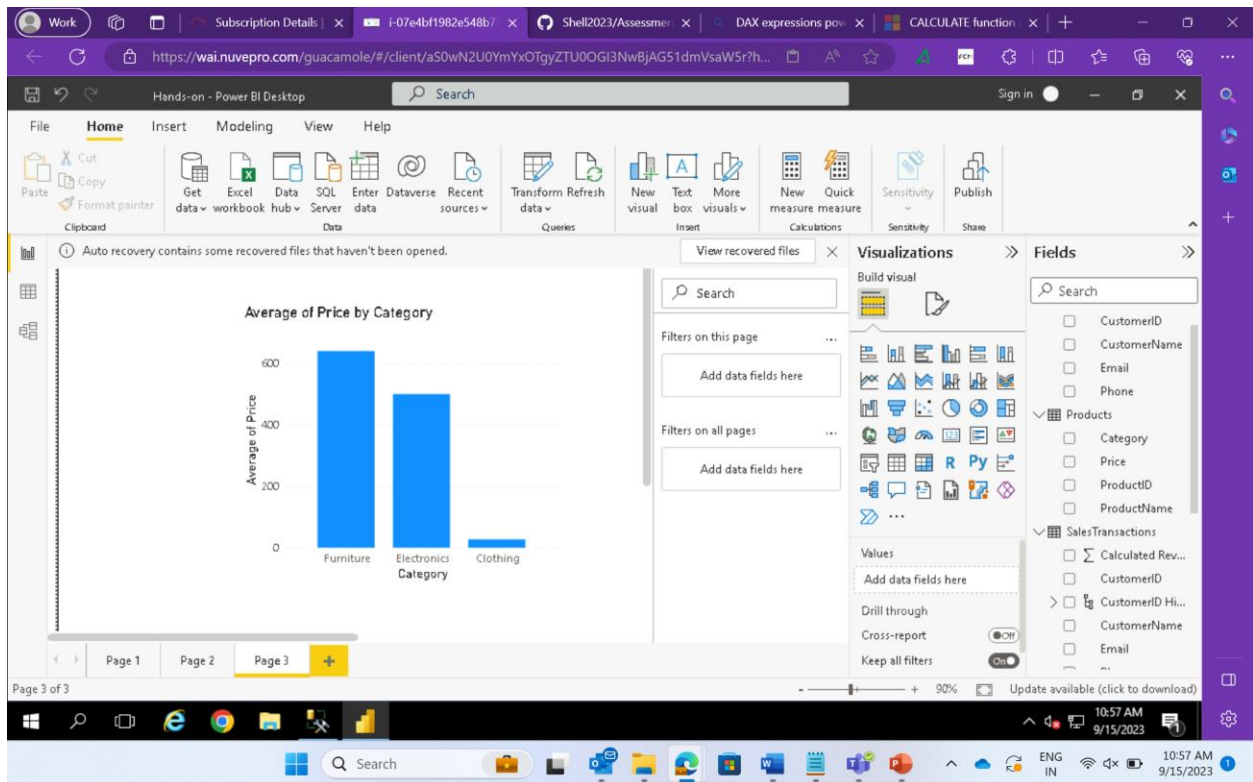
58K (26.06%)

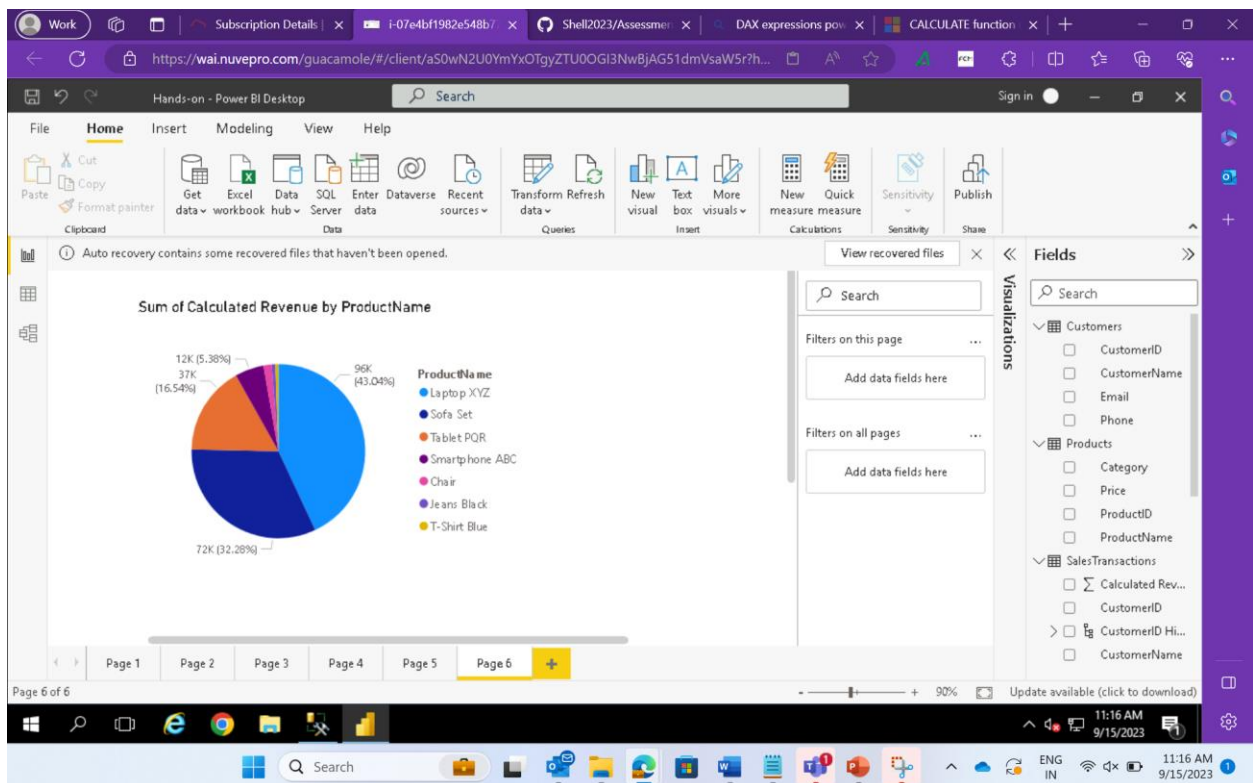
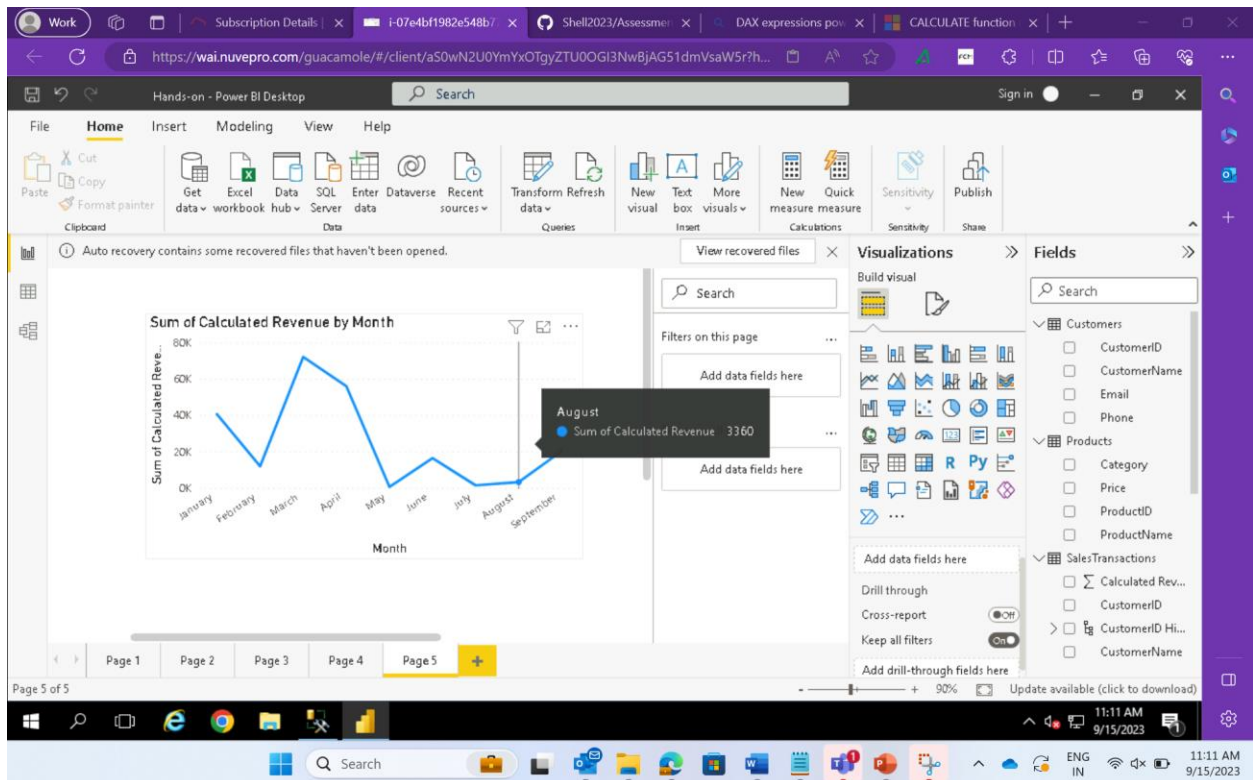
89K (39.86%)

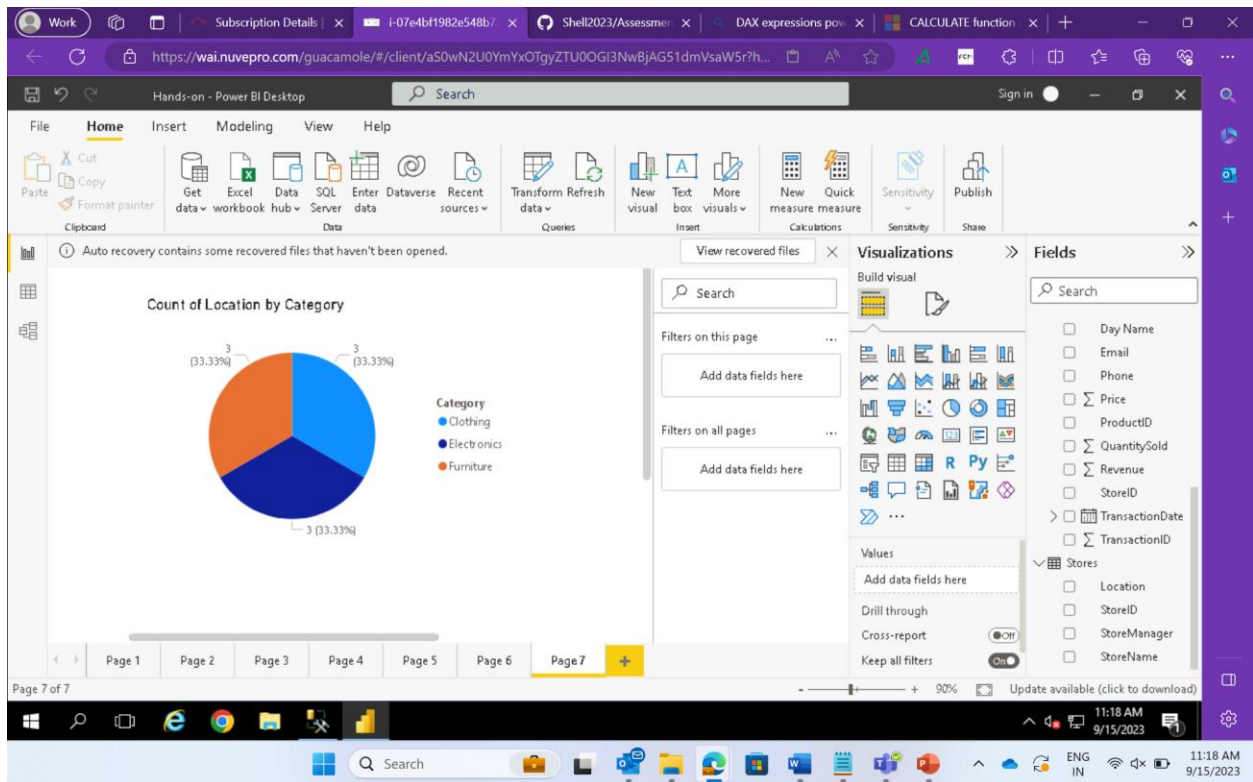
76K (34.09%)

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Part 5 Summary

