CSIS 4050 Assignment 1 - Sales Database

Project Requirements

1. Create a WPF application Assignment1-ProjectTeam-ProjectTeamNumber where Project Team is your Team Name and Project Number is the Number you have been assigned.
2. Zip your file and submit it using the name above.
3. All submissions must meet Coursework Requirement Submission Guidelines.

Assignment

Your assignment is to write a WPF application that filters a list of sales transactions in a sales database. You should work as a team for this project and assign various parts to different members. You will assign a project lead who will be responsible for assembling the final project and submitting it via Blackboard.
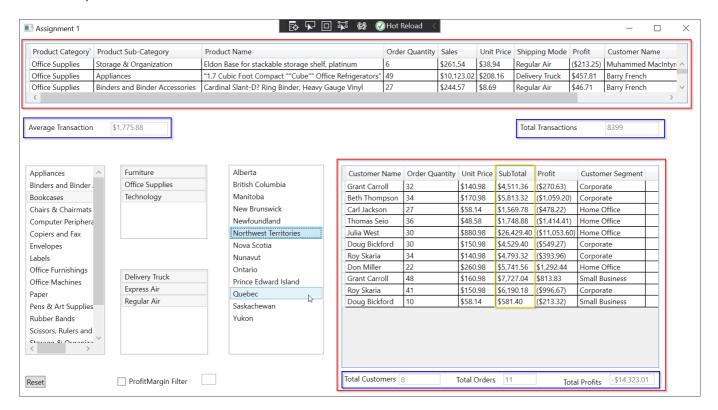
Requirements

- Read the | pipe delimited file (Assingmnet1.psv) to get the transactions, this is dummy sales data
- You must use LiNQ queries and Lambda expressions in order to filter the sales transactions and perform the basic statistics computations (see the appendix).
- You must use instantiated objects from a class definition to represent the sales transactions.
- You must use the same controls listed in the provided Screenshots below (ListBoxes, CheckBoxes, DataGrid etc.) from the WPF toolkit.
- The application must dynamically update when a filter is applied.
- When the application starts it will ask for a PSV file(*.psv) use the file downloaded from blackboard.

User Experience

- The program must immediately ask for the PSV file when it start ups.
- The application must load all the transactions into the main list of objects which should contain the following in order and be formatted correctly using the top DataGrid.
    - Product Category
    - Product Sub-Category
    - Product Name
    - Order Quantity
    - Unit Price
    - Sales
    - Shipping Mode
    - Profit
    - Customer Name
    - Customer Segment
    - Province
- All fields that are monetary should be properly formatted as currency.
- The form should be named "Assignment1-ProjectTeam-ProjectTeamNumber - Sales Database"
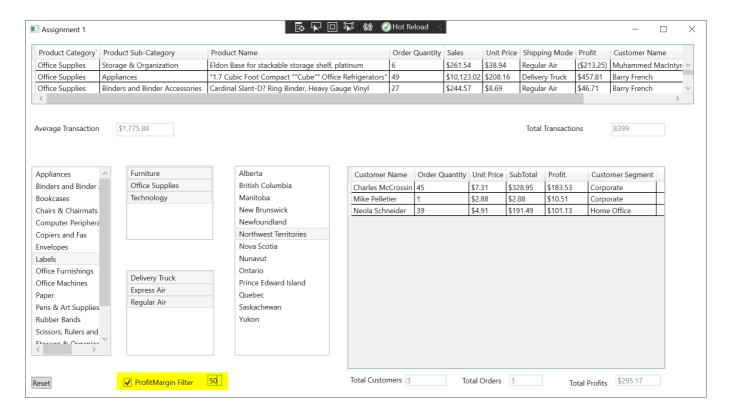- The first DataGrid contains all the transactions from the Sales Database (highlighted in Red)

- The second DataGrid contains all the filtered Transactions however the Columns are different (also highlighted in Red) they are as follows and should automatically be updated. The second dataGrid contains a derived field called "SubTotal" (highlighted in Yellow)
- The Statistics are to be updated based on the two datagrid views and the different filters (highlighted in Blue)
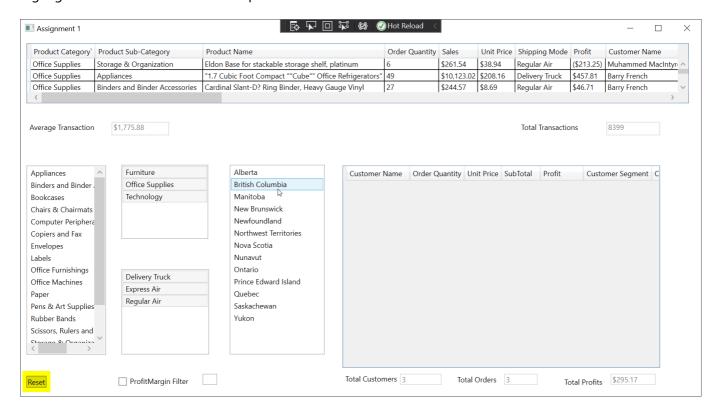

Filters

The Filters for the List Views are: Product Sub Category, Product Category, Province and Shipping Mode. There is also a filter for Profit Margin, this accepts a whole number and filters by the percentage of profit for example, if 0 is entered at least those transactions who had 0 percent or above displayed will appear. If a 50 is entered, those transactions who's profit margin was 50% or higher will appear. The percentage of profit can be calculated as follows (profit / sub total) * 100.
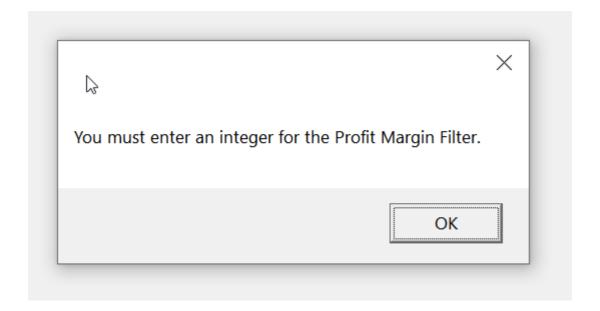
Reset Filters Button

The Reset Button will clear all the filters except the Product Category and Shipping Filters. The filtered results the default state (empty for the filtered results). The Product Category and Shipping Mode should all be highlighted when the reset button is pressed.

Error Handling

A `try/catch` must be used when reading the PSV file, do not assuume the data is in the correct format. Input Validation should be implemented to ensure the profit margin filter is in the correct format.

Submission Requirements

Submit the Assignment as though you were submitting a lab. The directory should be the same name as your project. Right-Click and send it to a ZIP file. You should verify you project runs on a Lab Computer. Again email submissions will not be entertained.

Evaluation

This assignment will be marked on a sliding scale of 7 points:

Criteria	Grading
Program submitted and named properly	.5 Points
Program fully commented	.5 Points
Naming Conventions followdd fully.	.5 Points
Form design completed with all controls laid out correctly including labels, dataGrid etc. Data is sorted using LINQ. Statistics coded and reported correctly.	1 Point
ListBox filters implemented correctly using LINQ, and display filtered transactions in the lower DataGrid control. Data is filtered and sorted using Link. Statistics are coded and reported correctly using LINQ and Lambda expressions.	2.5 Points
Profit Margin Filter controls implemented correctly and display selected transactions in lower DataGrid control. Data is filtered and sorted using LINQ.	1 Point
Reset Filters Button implemented correctly. Events and exceptions handled correctly.	.5 Points

Criteria will be scored on a sliding scale based on quality, completeness, and correctness. All team members will receive the same grade. If a team member has been found to have not made a proper contribution to the project, that team member will be graded significantly lower. Complete lack of a team member's participation will earn a zero grade.

Hints

- https://stackoverflow.com/questions/11950312/how-to-add-data-to-a-wpf-datagrid-programatically
- https://stackoverflow.com/questions/916454/how-can-i-set-the-binding-of-a-datagridtextcolumn-in-code
- https://stackoverflow.com/questions/13342123/how-to-get-relative-path-of-a-file-in-visual-studio

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