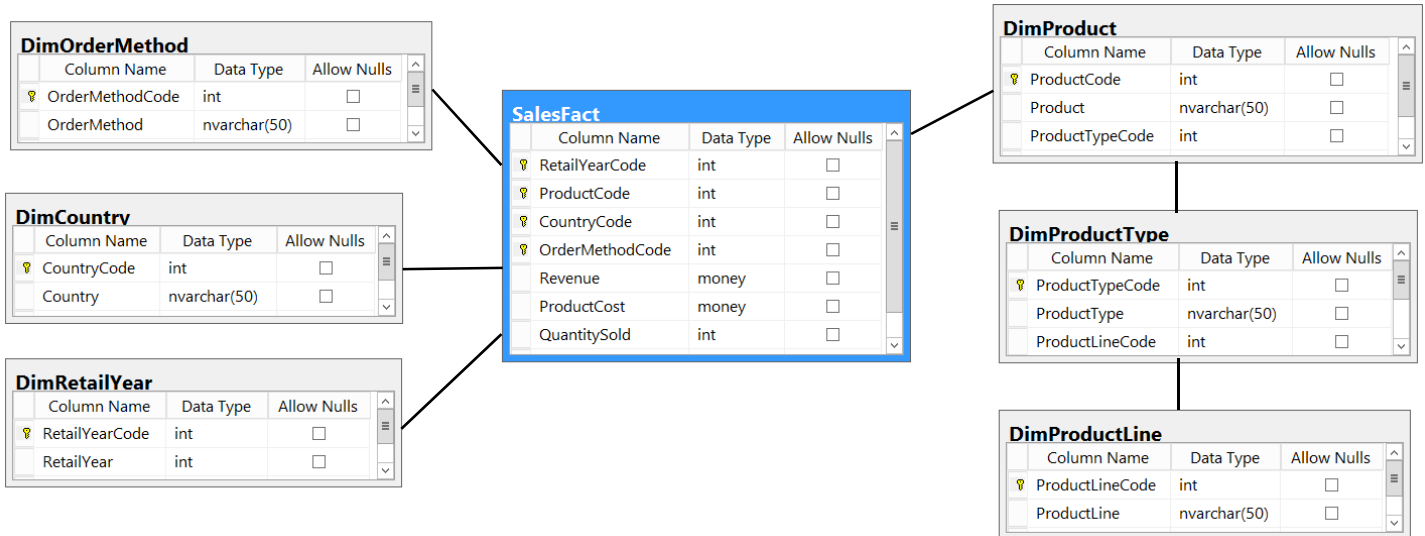


## CIS 570 – Midterm Exam Summer 2018

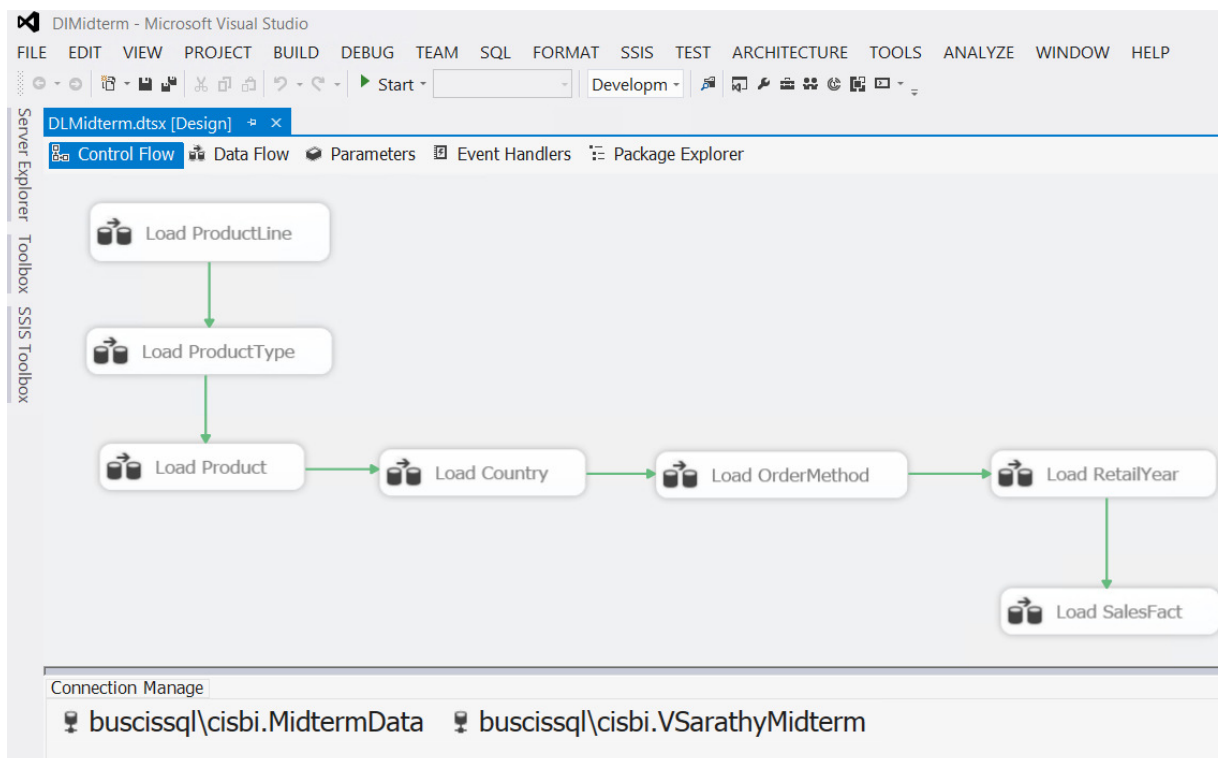
You should complete this exam on your own without assistance from anyone else. The deadline for submitting the exam is 11:59 PM on Sunday, June 17.

A data mart (**your Last Name + MidtermDM**) and analysis services database (**your Last Name + MidtermASD**) have been created for you. The SQL server instance is **buscissql\cisbi**.

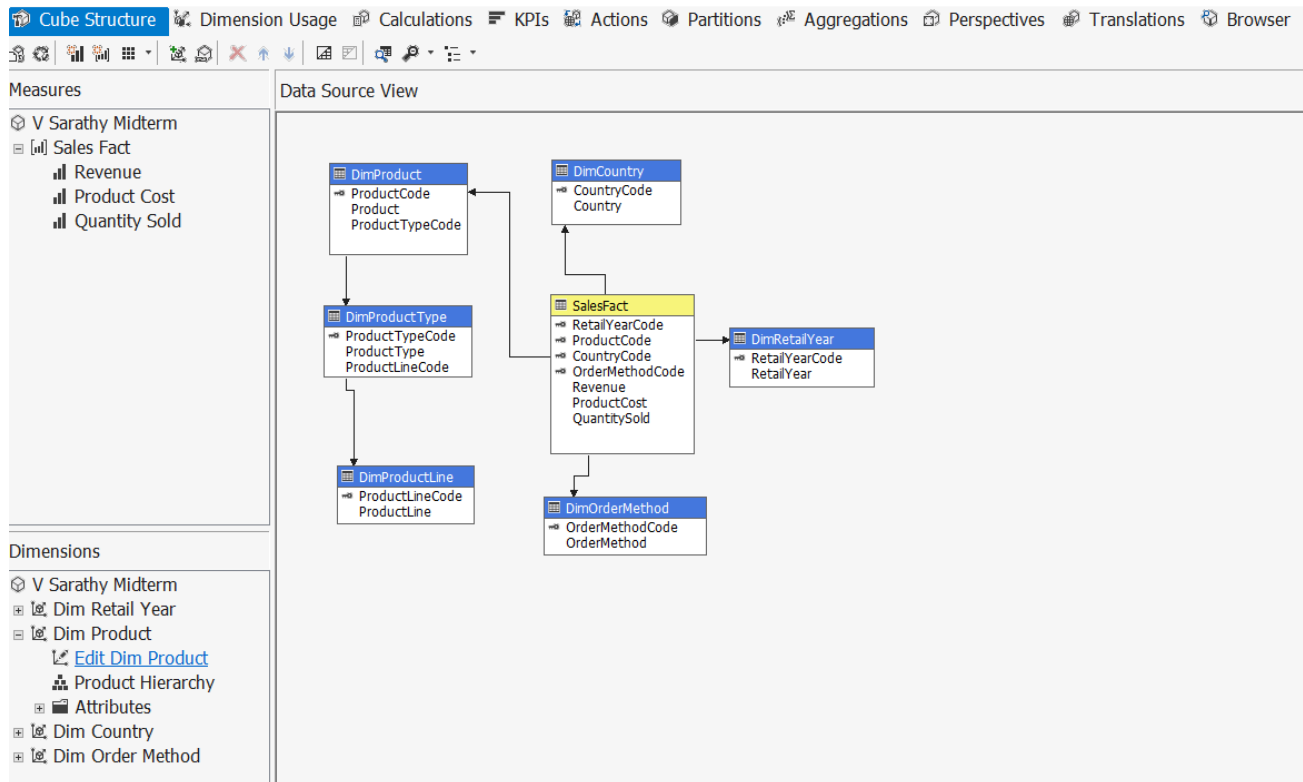
1. Create the following dimension and fact tables in your data mart. (18 Points)



2. Create an integration services project (name the project **DLMidterm** and save it in your class folder for CIS 570 (i.e., “S: drive”). Use the database, **MidtermData**, to fill the tables in your data mart. See figure below for sample Control Flow. (18 Points)



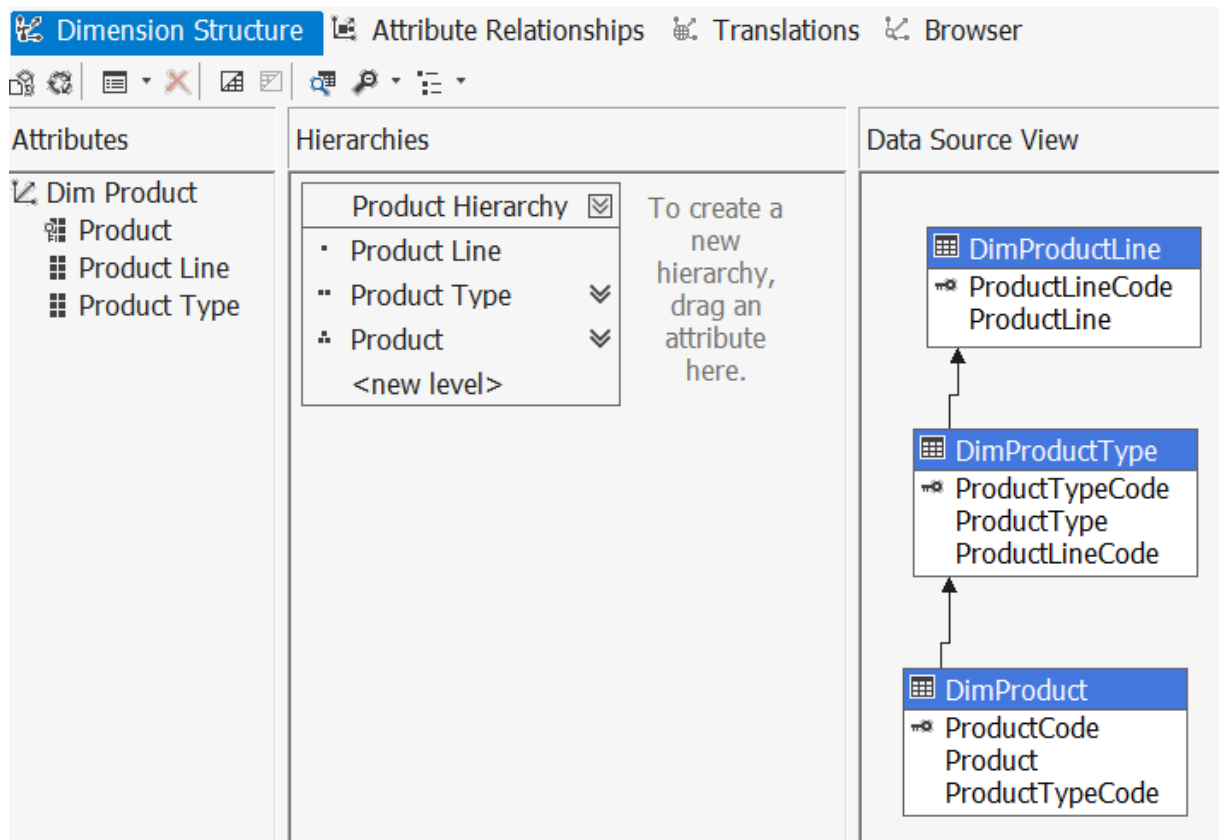
3. Open your analysis services database with Visual Studio 2017, and create a cube using your data mart as the data source. See figure below for cube structure. (12 Points)



4. Create a calculated measure for Gross Profit (Revenue – ProductCost). See figure below. (4 Points)

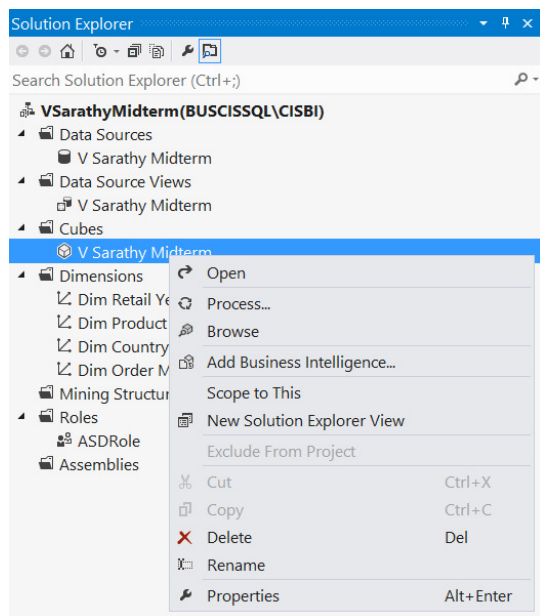
The screenshot shows the 'Calculations' tool in SQL Server Data Tools. The 'Script Organizer' pane on the left shows a list of scripts: 'Command', '1 CALCULATE', and '2 [Gross Profit]'. The 'Calculation Tools' pane on the left shows the 'Measure Group' set to '<All>'. The main pane shows the configuration for the calculated measure '[Gross Profit]'. The 'Name' field is '[Gross Profit]'. The 'Parent Properties' section shows 'Parent hierarchy' set to 'Measures' and 'Parent member' set to an empty field. The 'Expression' section shows the formula '[Revenue] - [Product Cost]'. The 'Additional Properties' section shows 'Format string' set to 'Currency', 'Visible' set to 'True', 'Non-empty behavior' set to 'Revenue, Product Cost', and 'Associated measure group' set to 'Sales Fact'. The 'Display folder' field is empty. The 'Color Expressions' and 'Font Expressions' sections are empty.

5. Create a hierarchy for the product dimension. See figure below. (4 Points)



6. Process the cube.

7. Right-click on your cube in the Solution Explorer window, and select Browse. See figure below.



In the browser window, expand the Measures entry in the metadata area. Drag each of the four measures and drop them on the surface labeled, “Drag levels or measures to add to the query”. See figure below.

Cube Structure
Dimension Usage
Calculations
KPIs
Actions
Partitions
Aggregations
Perspectives
Translations
Browser

Language: Default

Edit as Text
Import...

V Sarathy Midterm

Metadata

Measure Group:
<All>

V Sarathy Midterm

Measures

Sales Fact

Gross Profit

Product Cost

Quantity Sold

Revenue

KPIs

Dim Country

Dim Order Method

Dim Product

Dim Retail Year

Dimension
Hierarchy
Operator
Filter Expression

<Select dimension>

Drag levels or measures here to add to the query.

8. Click the link, “Click to execute the query”. The totals for the four measures for the entire cube will be displayed. Submit these totals (4 Points) and indicate that you have completed the exam. We will check your work on the server and class folder.