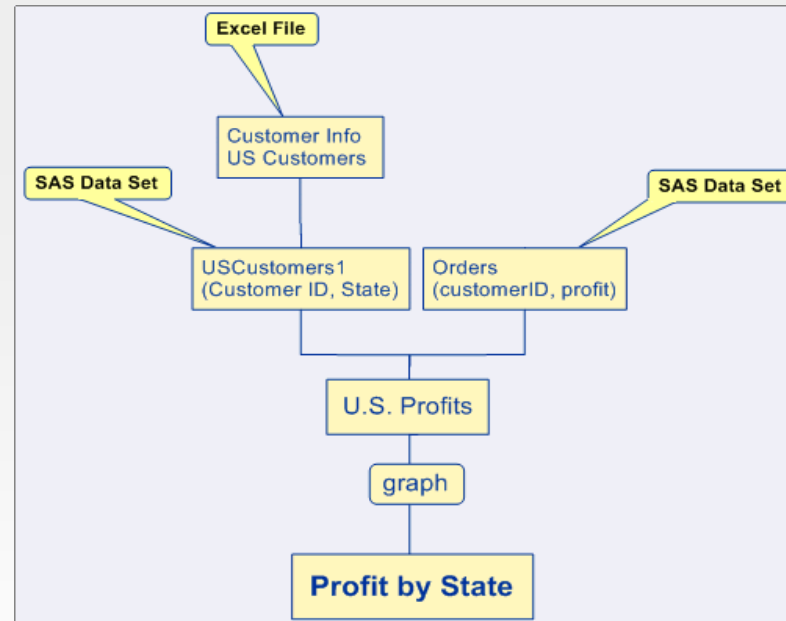# Introduction to SAS Enterprise Guide

- Overview Demonstration

This demonstration illustrates the use of SAS Enterprise Guide to analyze the profits for sporting goods by state among U.S. customer orders from the southwest sales region.

✎ Many of the tasks shown in this demonstration are discussed later in the course. This demonstration is intended as a broad overview of a typical data analysis case study.
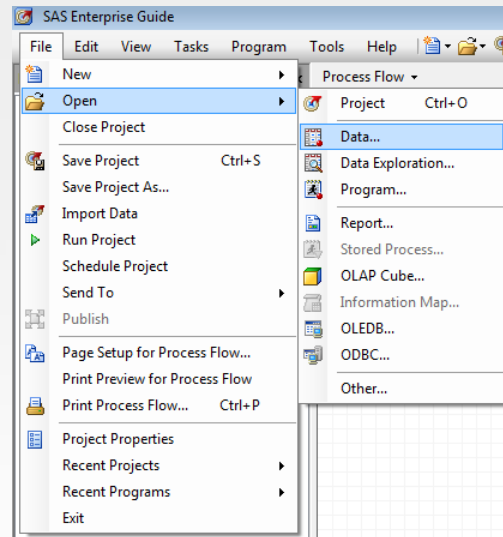
Introduction to SAS Enterprise Guide

• Overview Demonstration: Part 1
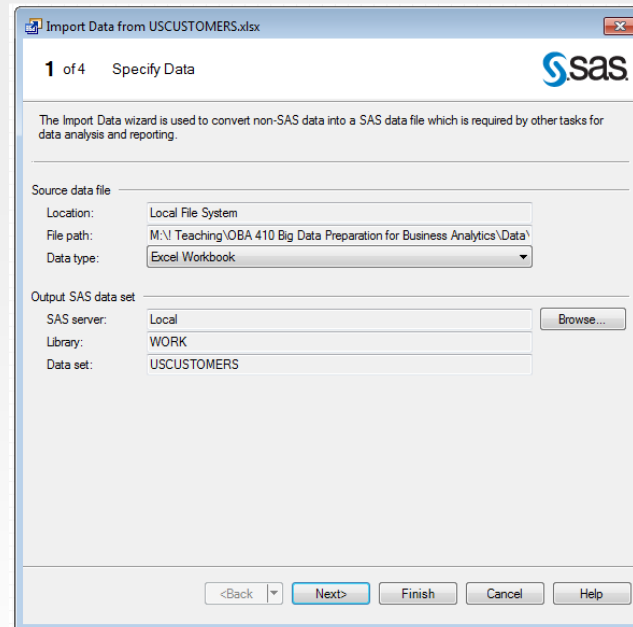
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1
  1. Open SAS Enterprise Guide. From the Welcome window, select **New Project.**
  2. From the File menu, select **Open > Data…**

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1

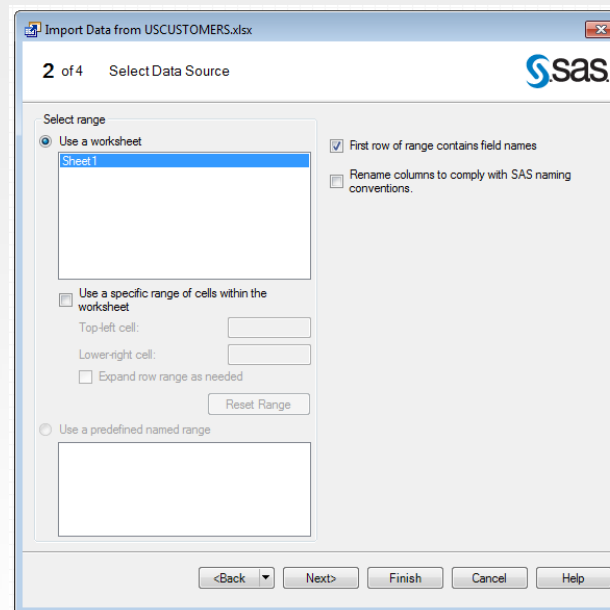 3. Select **USCustomers.xlsx** from the list of files to start the Import   Data task.

  4. Select **Next>…**

Introduction to SAS Enterprise Guide
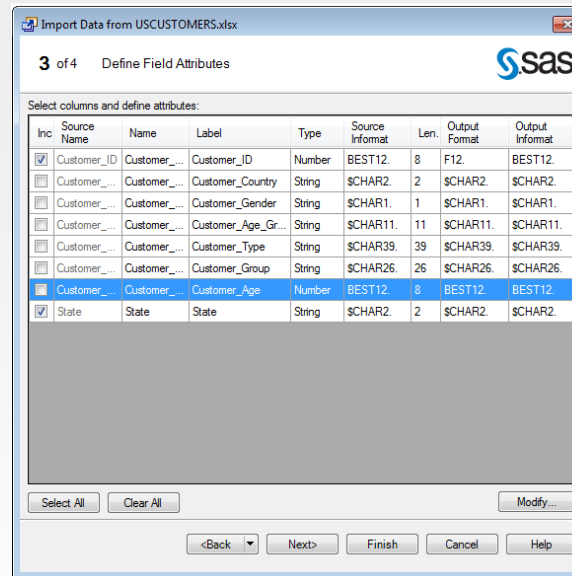
- Overview Demonstration: Part 1

  5. Select the check box next to First row of range contains field names. Select **Next>…**

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1
  6. Clear the **Inc** field for all columns except for **Customer_ID** and **State**. Select **Next>…**
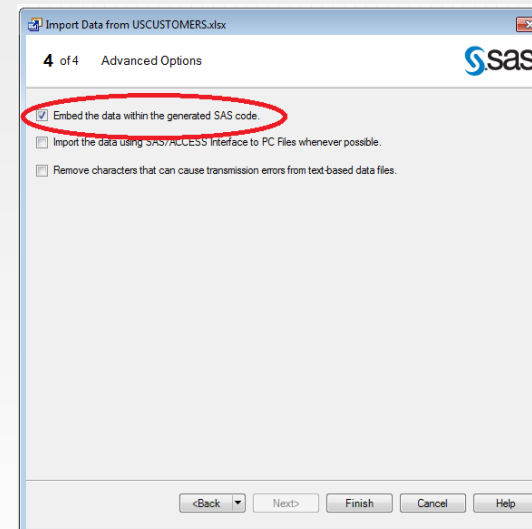
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1

  7. Check the box next to **<mark>Embed the data</mark>** within the generated SAS code. Leave the remaining Advanced Options as they are. Select **<mark>Finish</mark>**.

  🖉 The option checked above

  embeds the data in a SAS

  program. This is useful

  making projects portable

  from one computer to another.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1

  8. Join the **USCUSTOMERS** data table to the orders data table. Select **Query Builder.**

Introduction to SAS Enterprise Guide

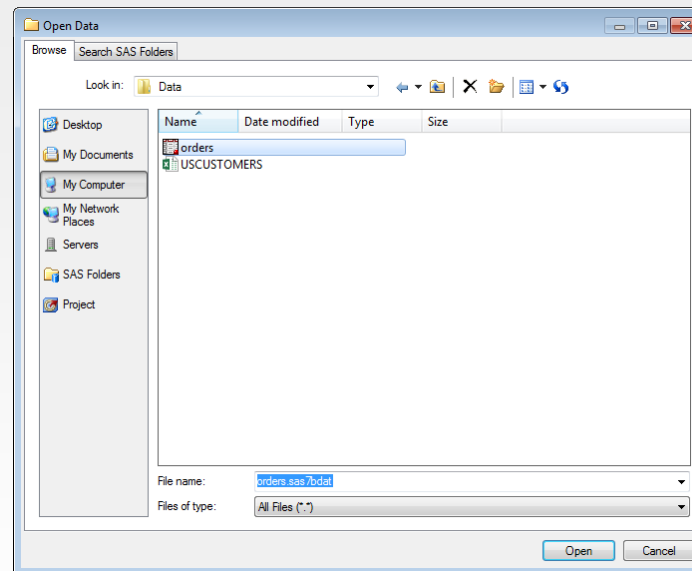- Overview Demonstration: Part 1
  9. Type **Report 1** into the Query name field. Select **Join Tables.**
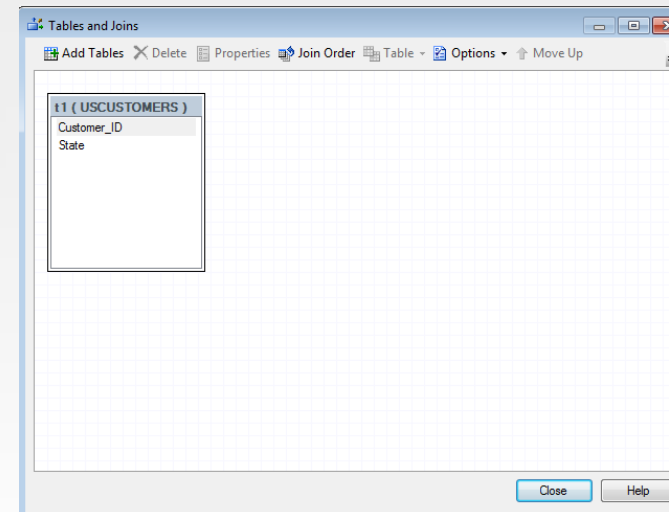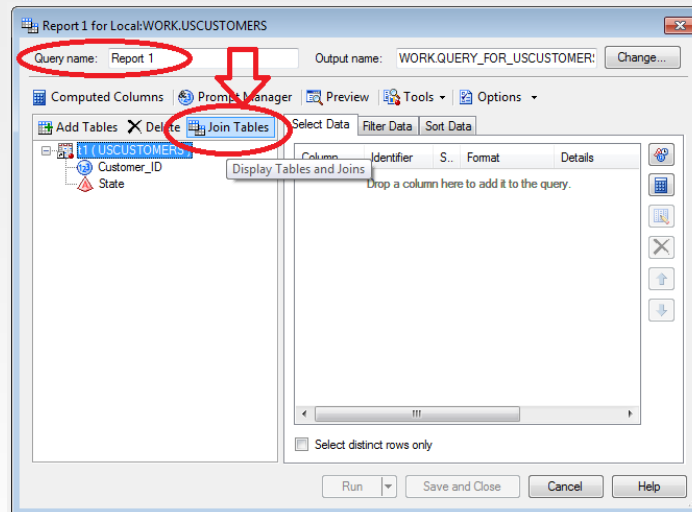
Introduction to SAS Enterprise Guide
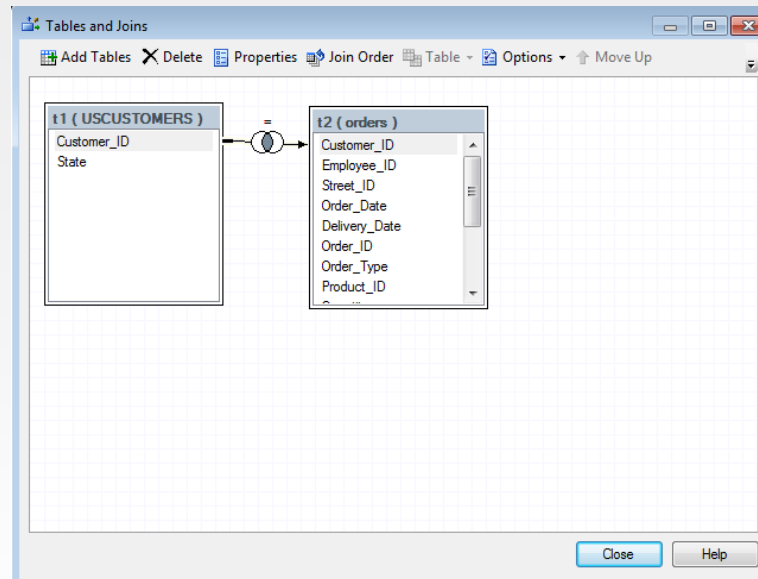
- Overview Demonstration: Part 1

  10. From the Tables and Joins window, select **Add Tables**. Navigate to the course data and select the SAS data set **orders**. Select **Open**.

Introduction to SAS Enterprise Guide
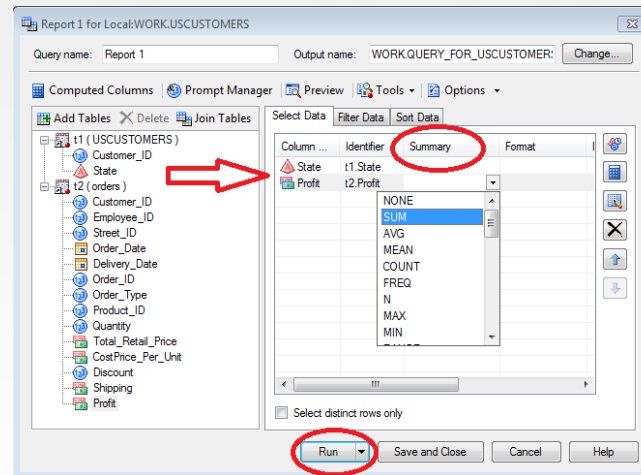
- Overview Demonstration: Part 1

11. A join based on **Customer_ID** is automatically selected. Select **Close**.
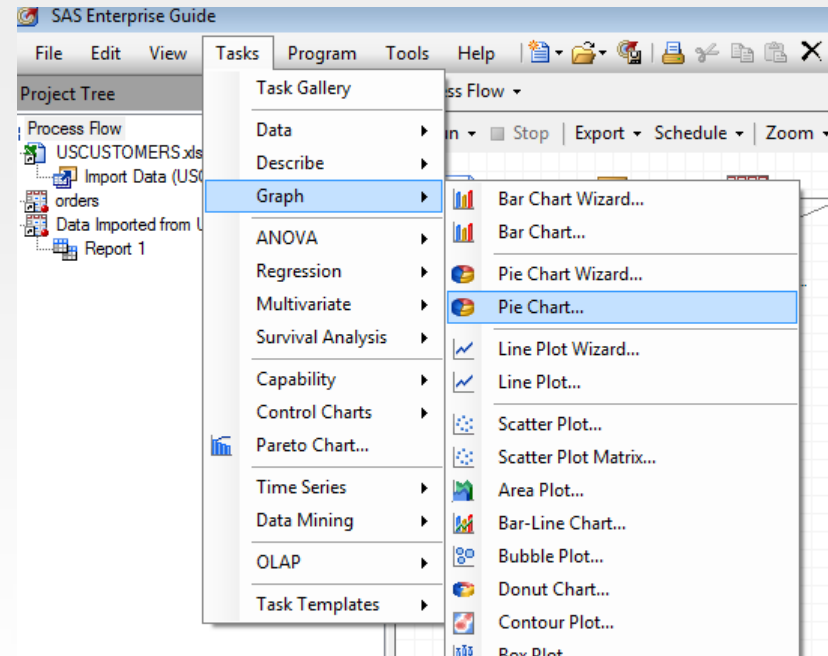
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1

12. Select the variables that you want to keep. Drag **State** and **Profit** from the pane on the left to the Column Name pane. Select the **Summary** field for **Profit** and change the selection from **NONE** to **Sum**. Select Run.
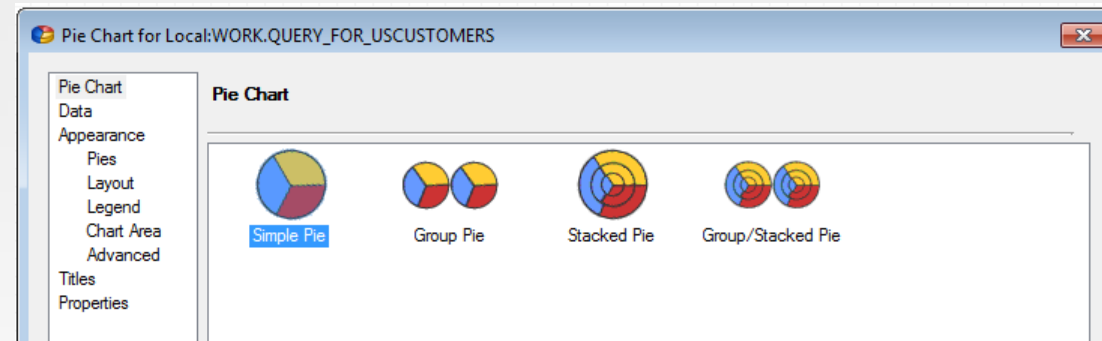
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1
  13. Select **Tasks** > **Graph** > **Pie Chart**

Introduction to SAS Enterprise Guide

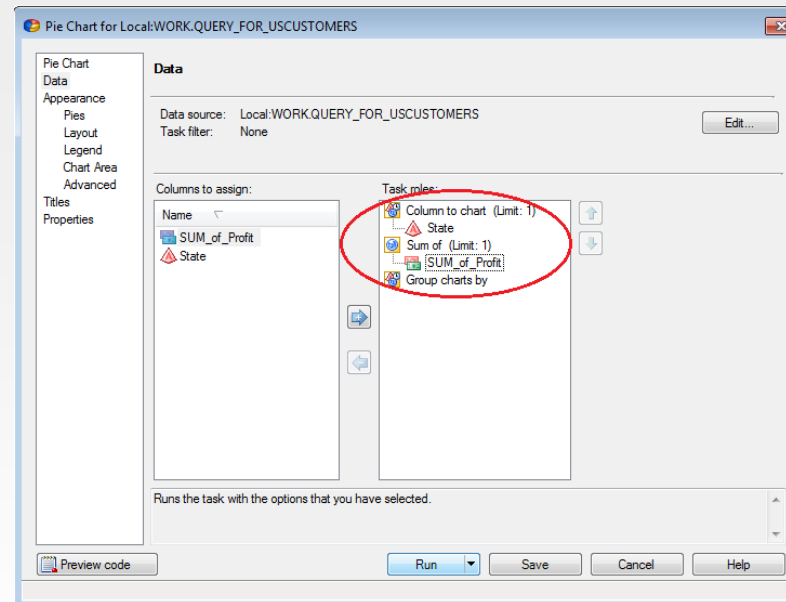- Overview Demonstration: Part 1
  14. Select **Simple Pie**. Select **Data**
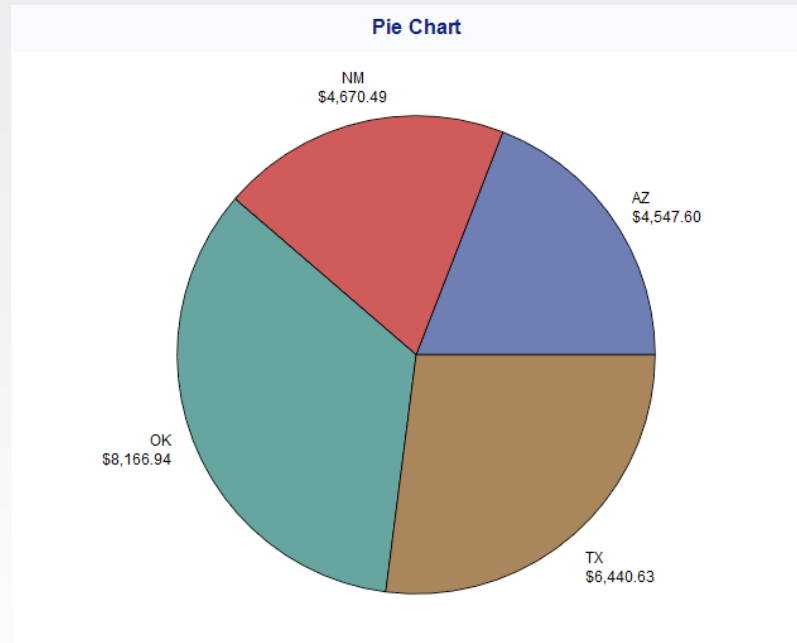
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1

  15. Assign **State** to the Column to chart role. Assign **SUM_of_Profit** to the Sum of role.
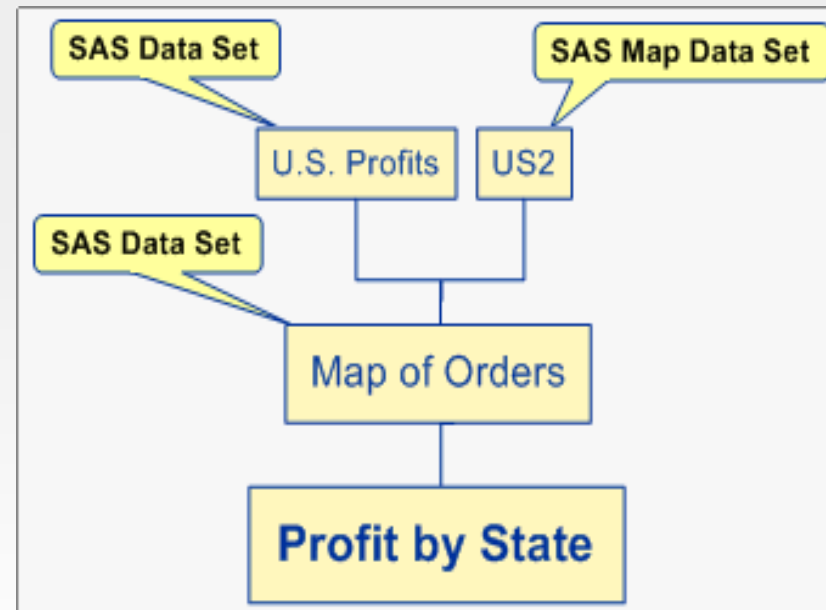
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 1
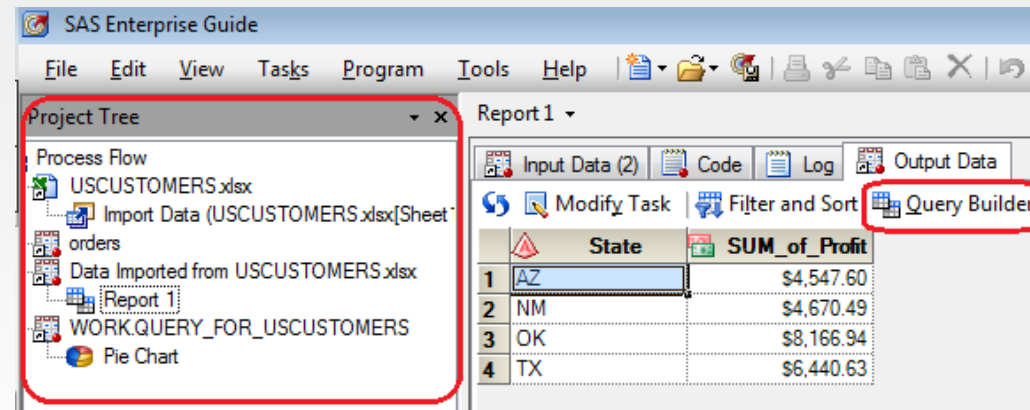 16. Select **Run**.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
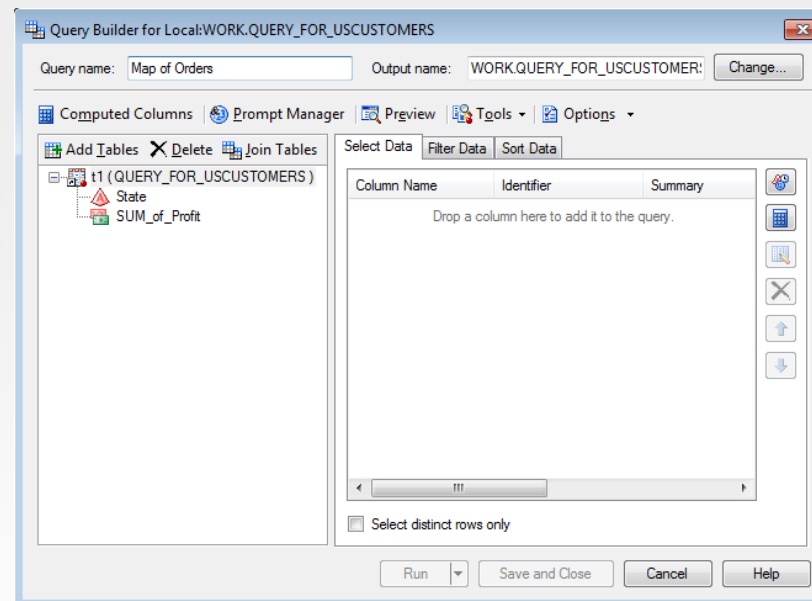
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  1. Select **Report 1** in the project tree and the **Output Data** tab
  2. Select **Query Builder**.
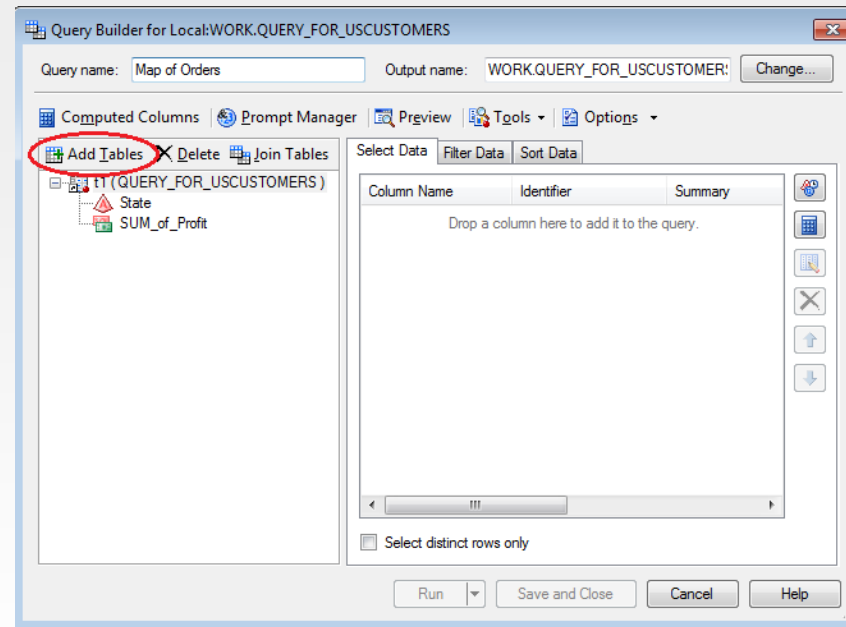
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  3. Type **Map of Orders** in the Query name field. Select **Join Tables**.
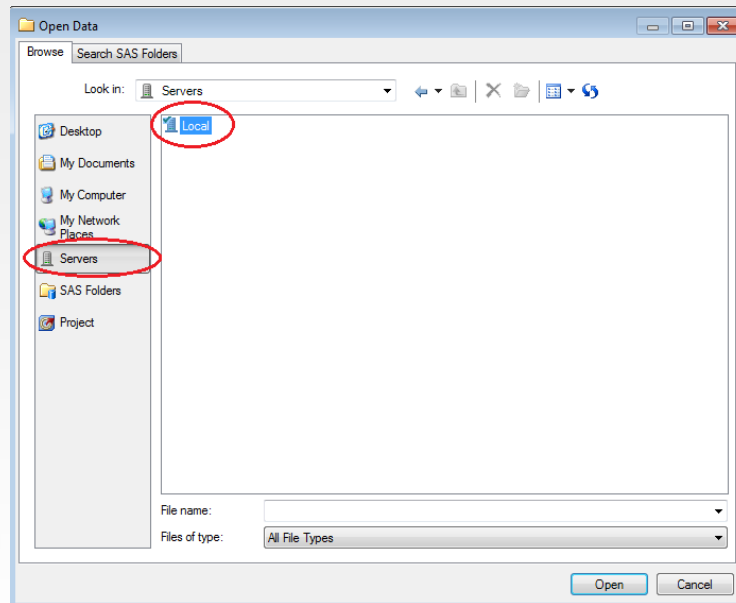
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
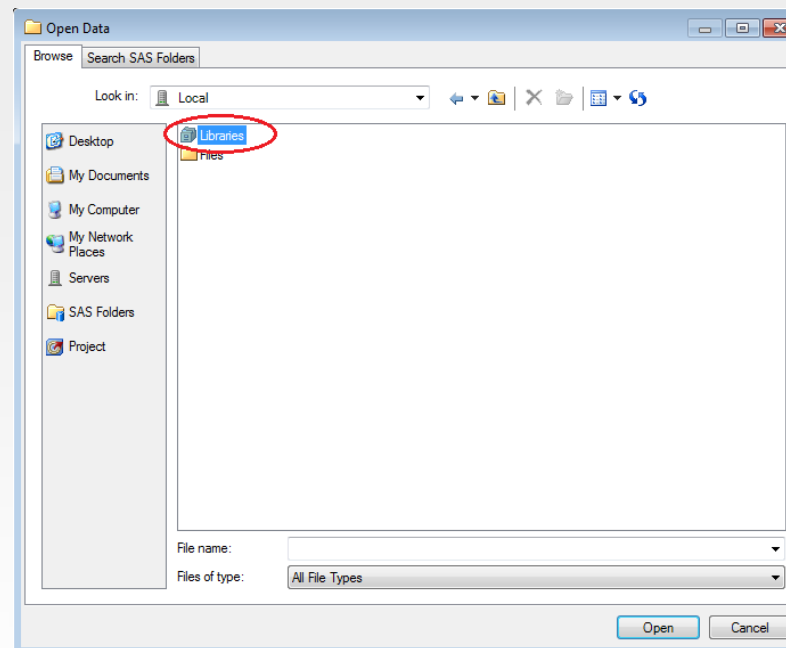 4. Select **Add Tables**.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
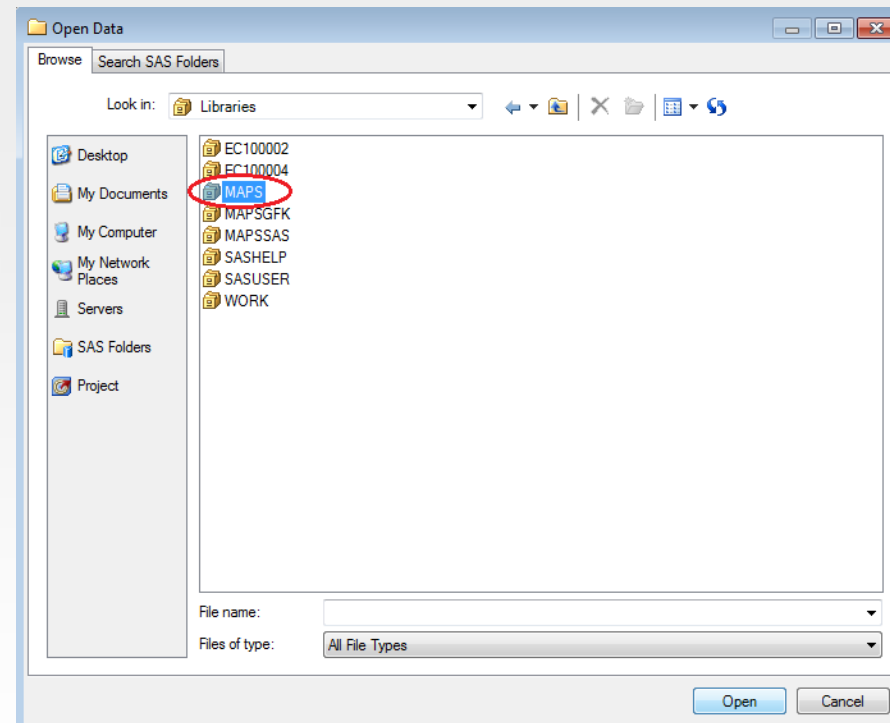   5. Select <mark>**Servers**</mark> and then select <mark>**Local**</mark>.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  6. Select <mark>**Libraries**</mark>.
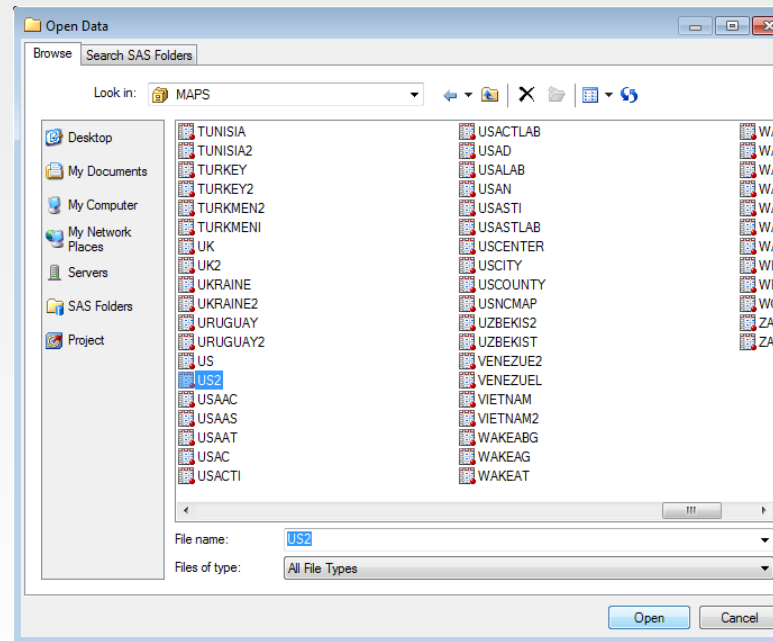
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  7. Select **MAPS**.
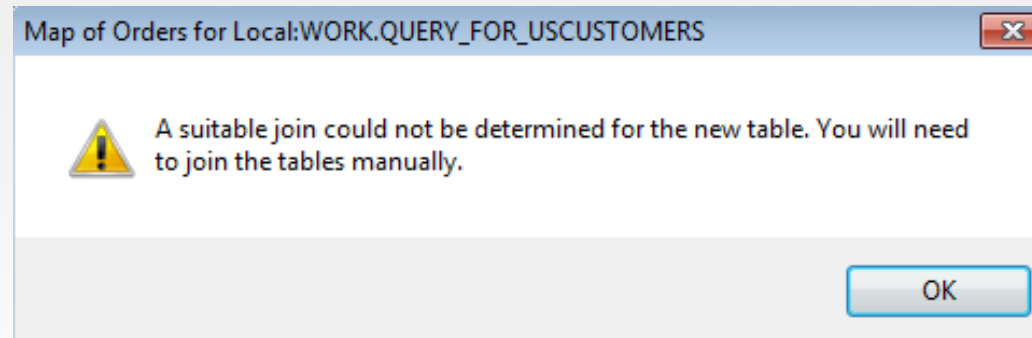
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2

8. Select **US2**. This is a mapping data set that comes with SAS and contains information about U.S. states for creating maps. Select **Open**.
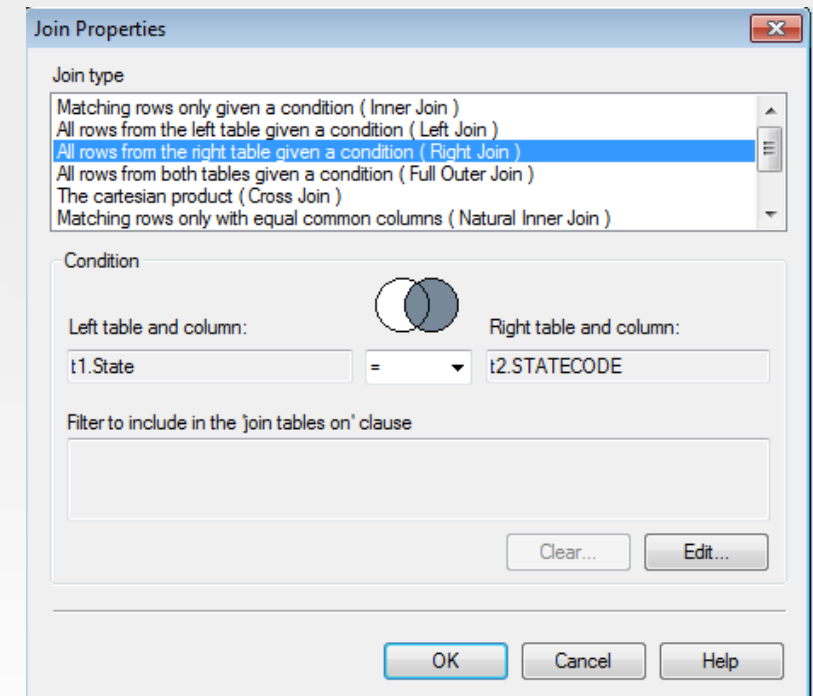
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  9. The following message appears. Select **OK**.
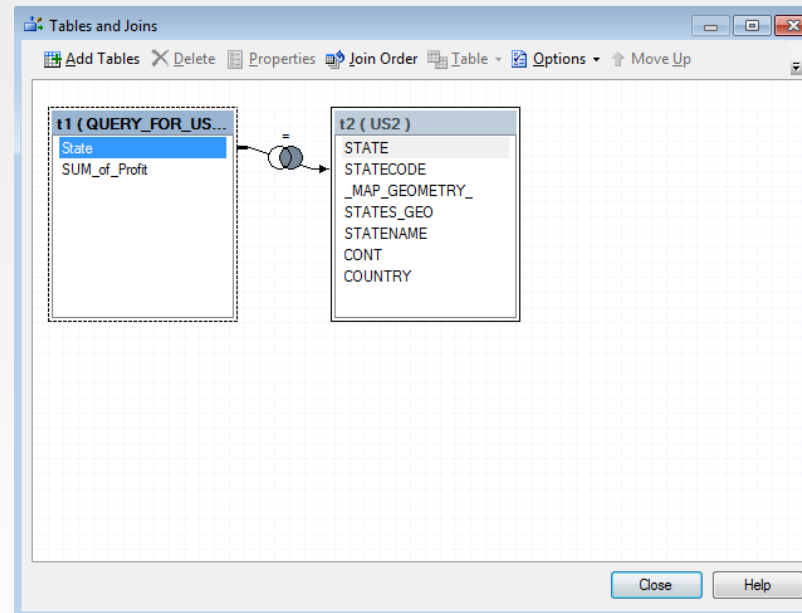
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2

  10. Select **State** from the **t1(QUERY_FOR_US…)** data set and drag the cursor over to **STATECODE** from the **US2** data set. You want to keep the map data for all states, not only those with sales, so select **All rows from the right table given a condition (Right Join)** in the Join Properties window. Select OK.
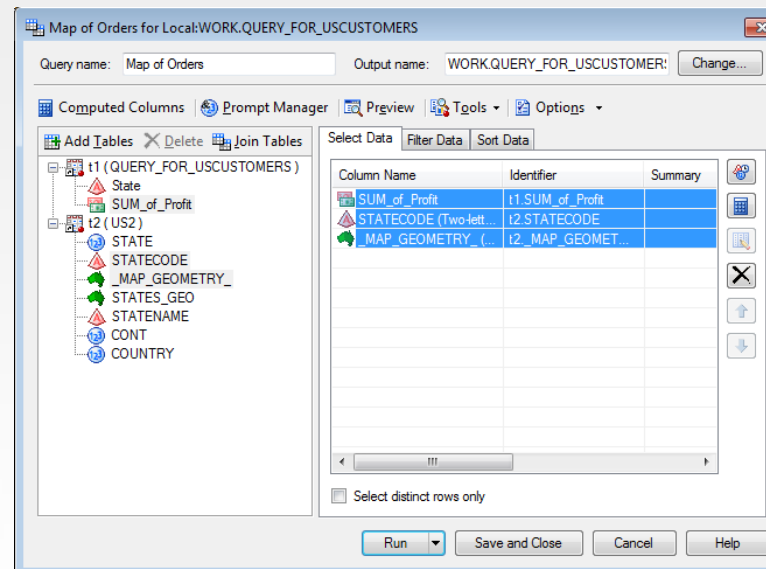
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  11. The Tables and Joins window should appear as below. Select Close.
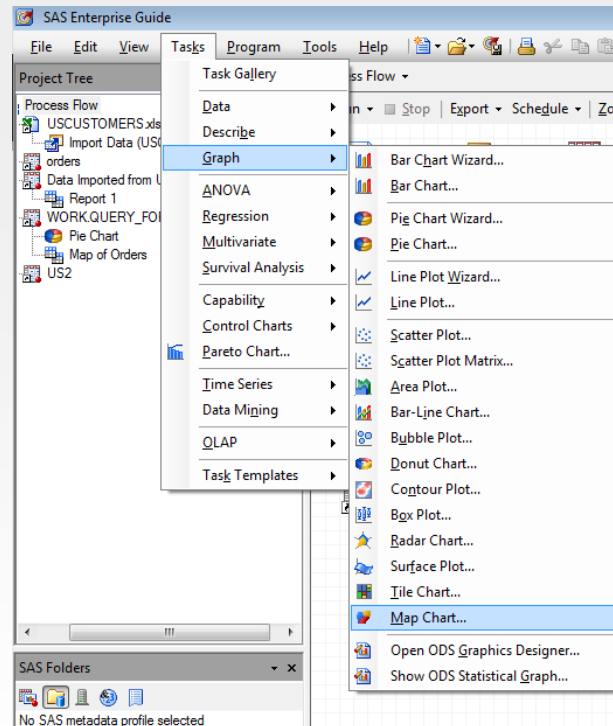
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2

  12. Add variables to the table by selecting them from the list on the left and fragging them onto the list on the right. From **t2(US2)**, select **_MAP_GEOMETRY** and **STATECODE**. From **t1**, select **SUM_of_Profit**. Select **Run**.
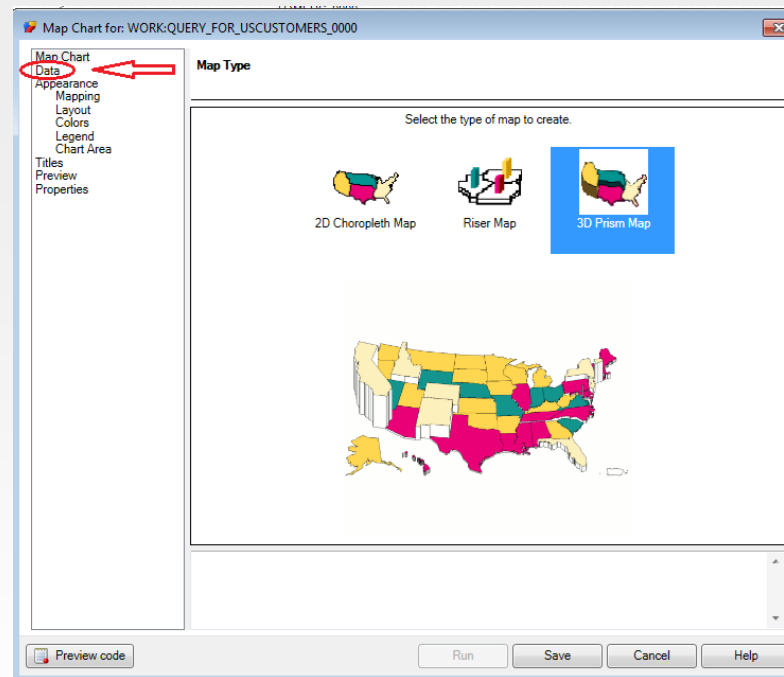
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
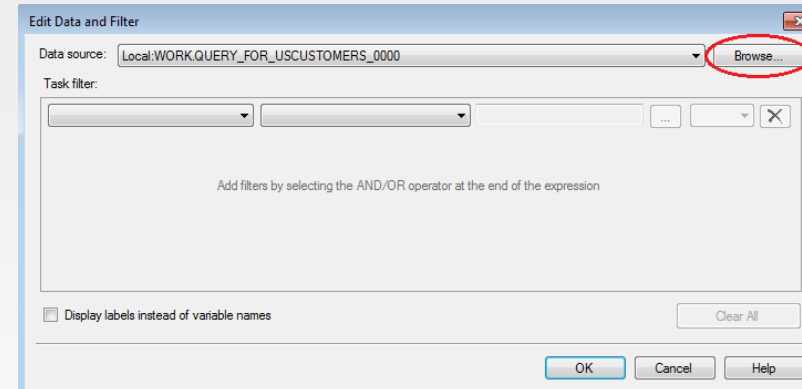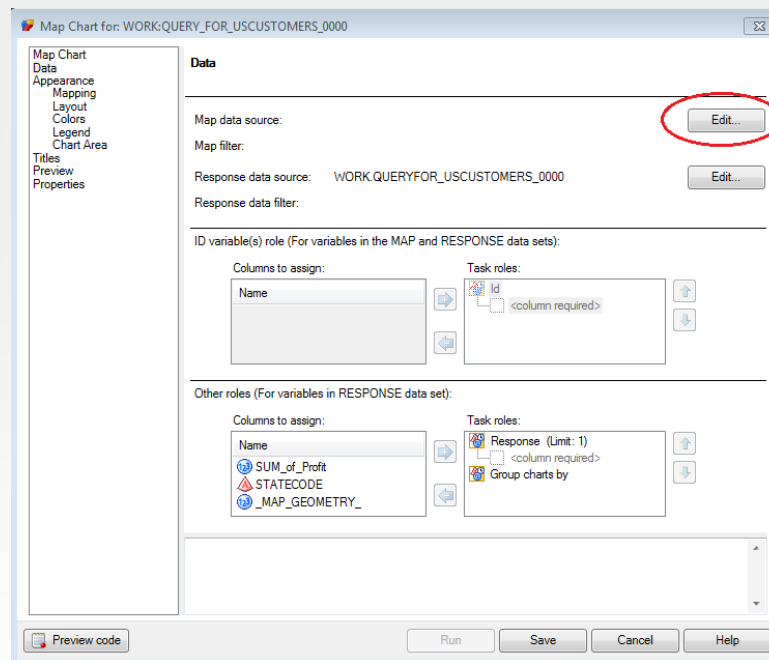 13. Select **Tasks** > **Graph** > **Map Chart**

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2

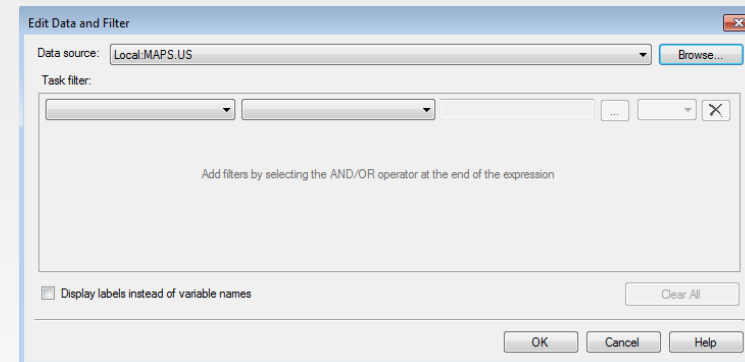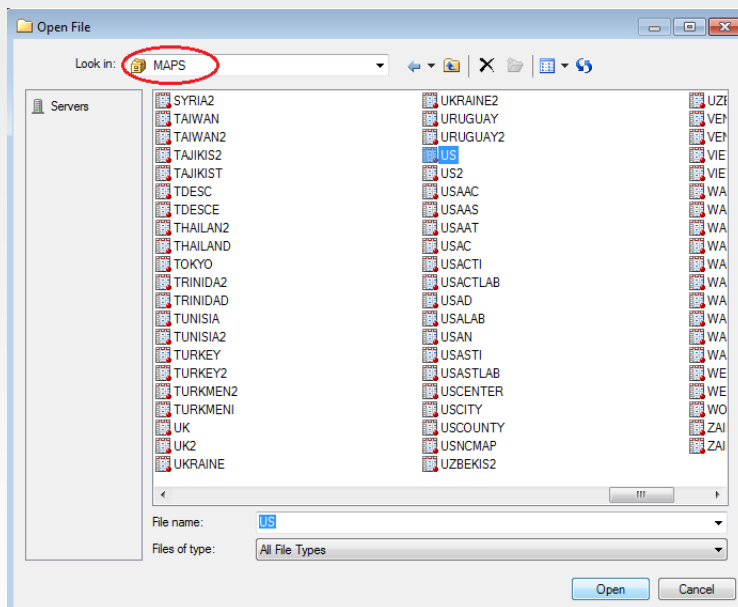   14. Select **3D Prism Map**. Select **Data**.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  15. Select **Edit…** and **Browse…**.

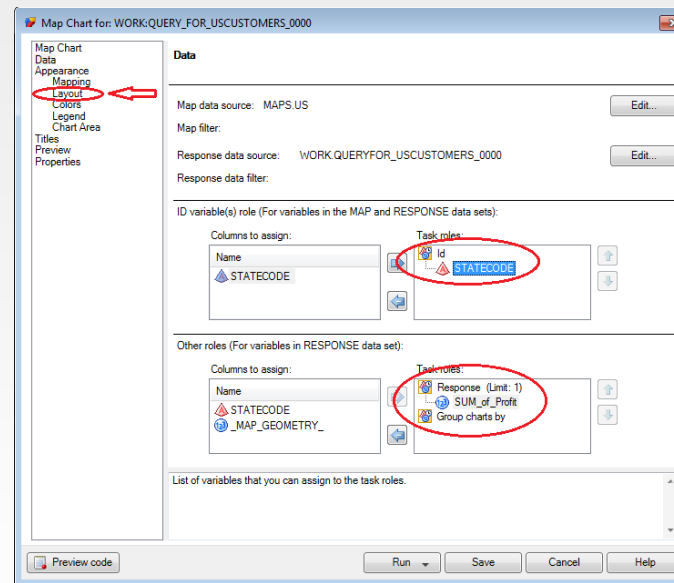# Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2
  16. Select **US** and **OK**.

Introduction to SAS Enterprise Guide
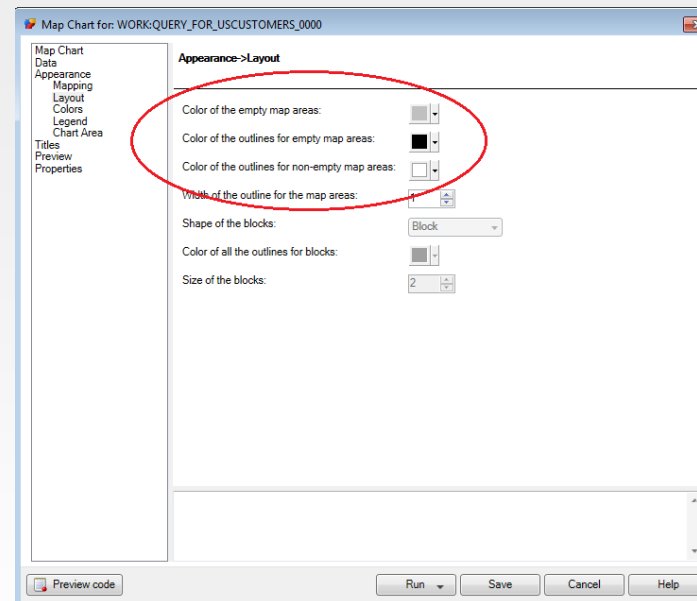
- Overview Demonstration: Part 2

    17. Assign **SUM_of_Profit** as the Response and **STATCODE** as id. Select **Appearance** > **Layout**.

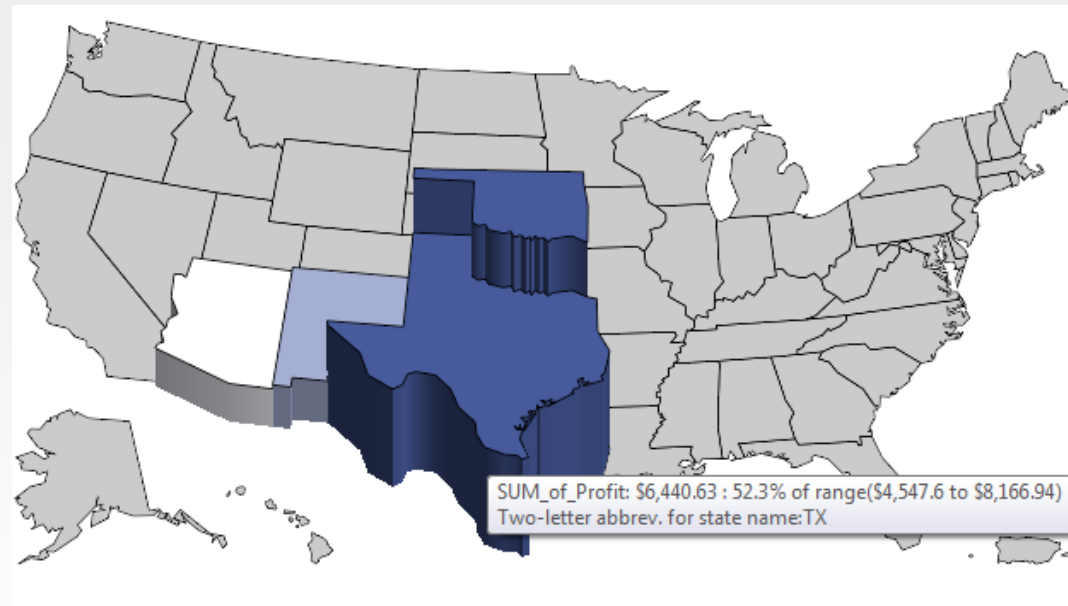# Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 2

    18. Change the outline color from white to black, and change the "Empty Areas" outline color form white to gray. Select **Run**.
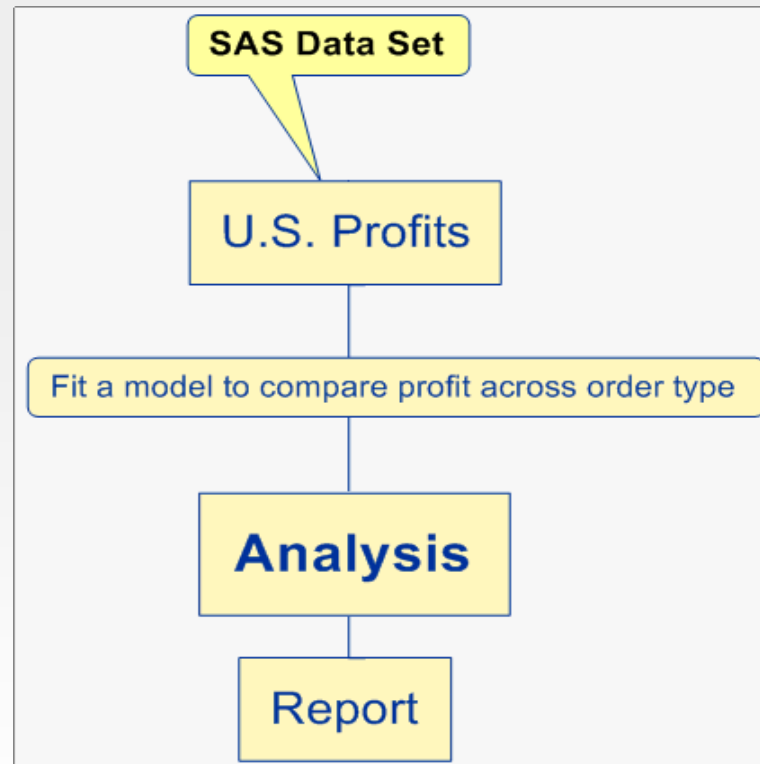
Introduction to SAS Enterprise Guide

- ## Overview Demonstration: Part 2

  The map below shows the four states in the sales region (New Mexico, Arizona, Texas, and Oklahoma). The height of the state represents the **SUM_of_Profit** for that state. The colors indicate the values as well. To see the **SUM_of_Profit** for each state individually, place your cursor over a state.
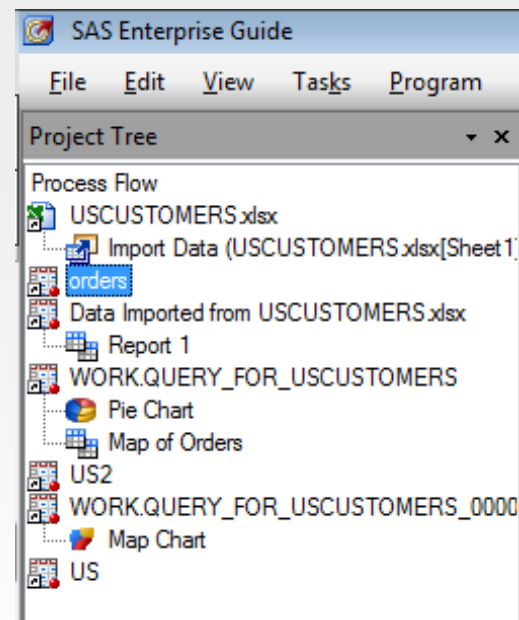

SUM_of_Profit: $6,440.63 : 52.3% of range($4,547.6 to $8,166.94)
Two-letter abbrev. for state name:TX

Introduction to SAS Enterprise Guide

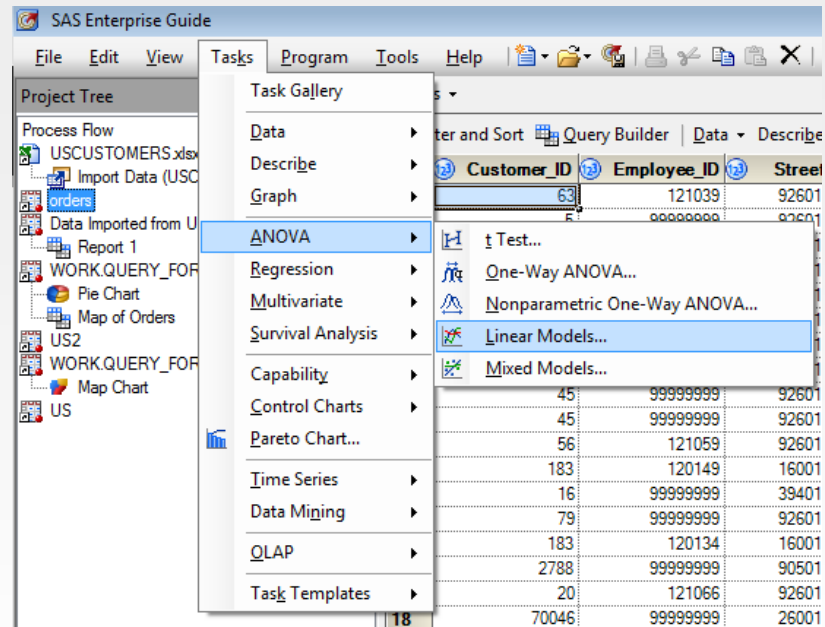- Overview Demonstration: Part 3

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3
  1. From the project tree, select the **orders** data set.
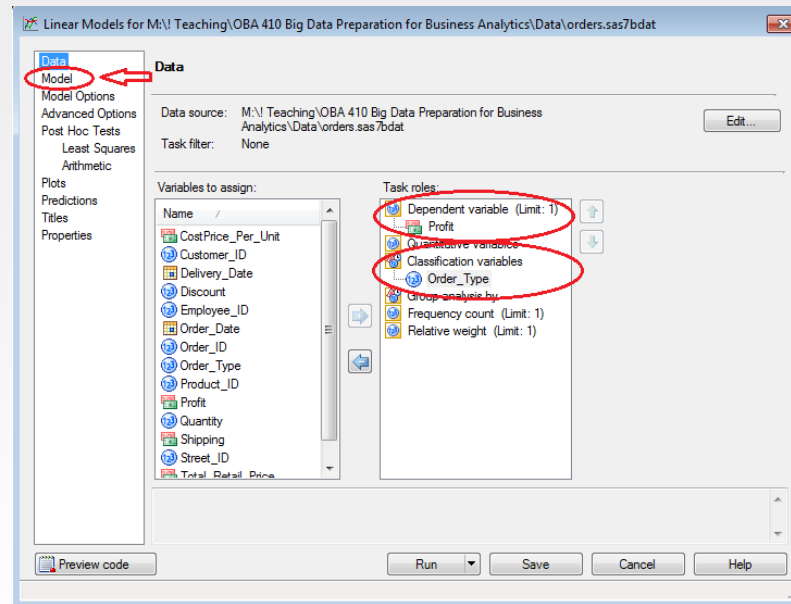
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3
  2. Select **Tasks** > **ANOVA** > **Linear Models…**.
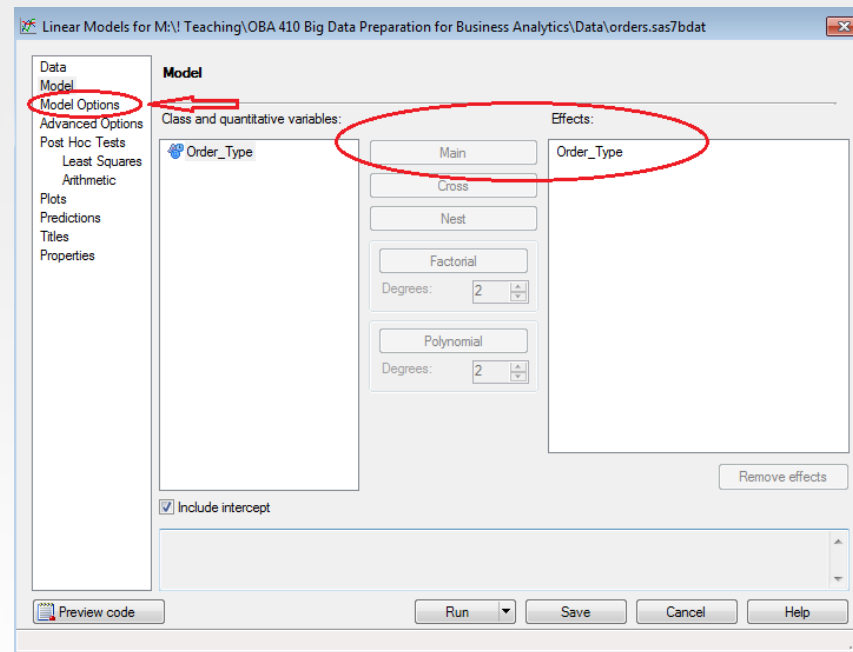
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3
  3. Assign **Profit** as the dependent variable and **Order_Type** as the Classification variable. Select **Model**.
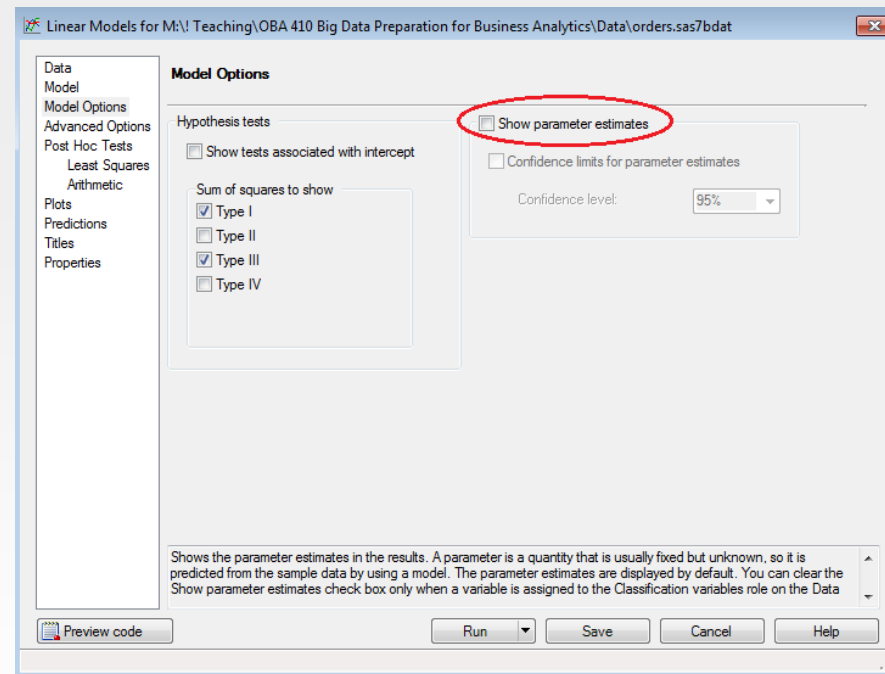
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3
  4. Assign **Order_Type** as a Main effect. Select **Model Options**.

Introduction to SAS Enterprise Guide

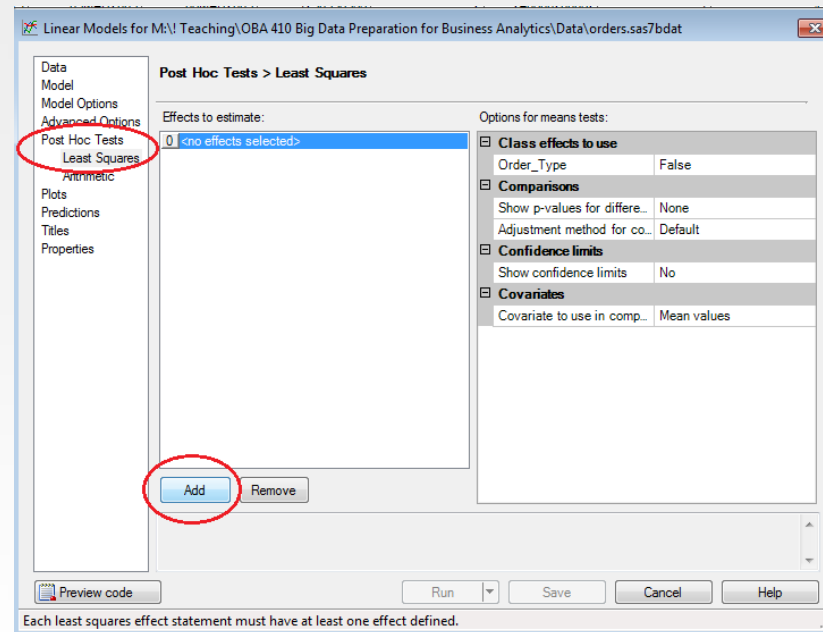- Overview Demonstration: Part 3
  5. Clear the check box next to **Show parameter estimates**.
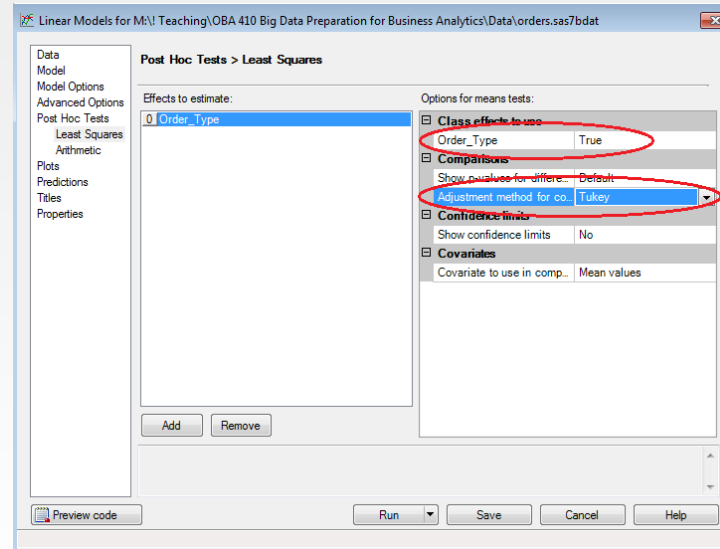
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3

   6. To perform pairwise comparisons of the groups, select **Post Hoc Tests** > **Least Squares**. Select **Add**.
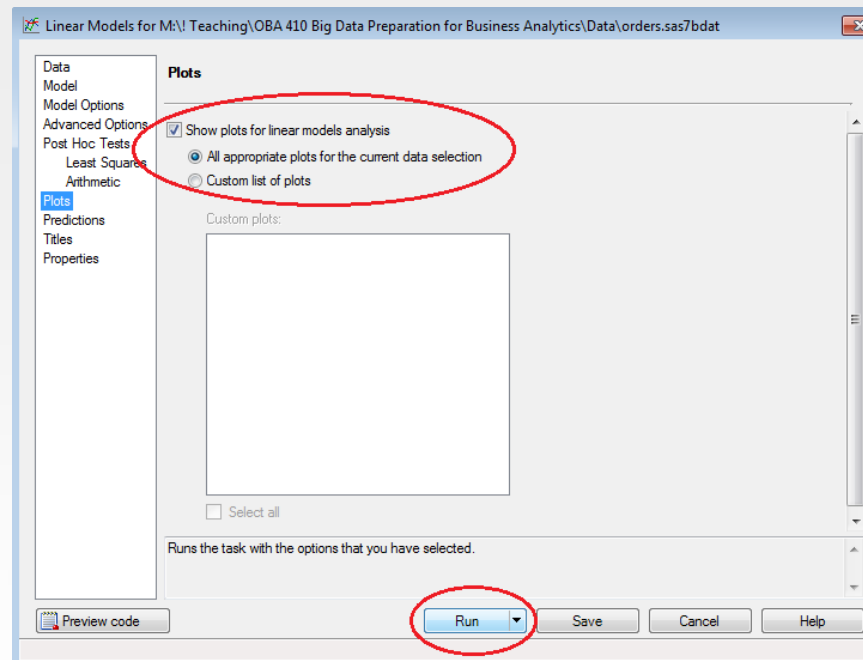
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3

7. Under Class effects to use, change **Order_Type** from **False** to **True**. Under Comparisons, change **Show p-values for differences** to **default**, and change **Adjustment method for comparisons** from **None** to **Tukey**.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3
  8. Select **Plots**. Be sure that **All appropriate plots for the current data selection** is selected. Select **Run**.

Introduction to SAS Enterprise Guide

- ## Overview Demonstration: Part 3

  The tabular results from the Analysis of Variance appear first, followed by the diagnostic graphics.

Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3

  There is evidence of
  poor model fit, suggested
  by the large number of
  outliers and the skewed
  distribution of the residuals.
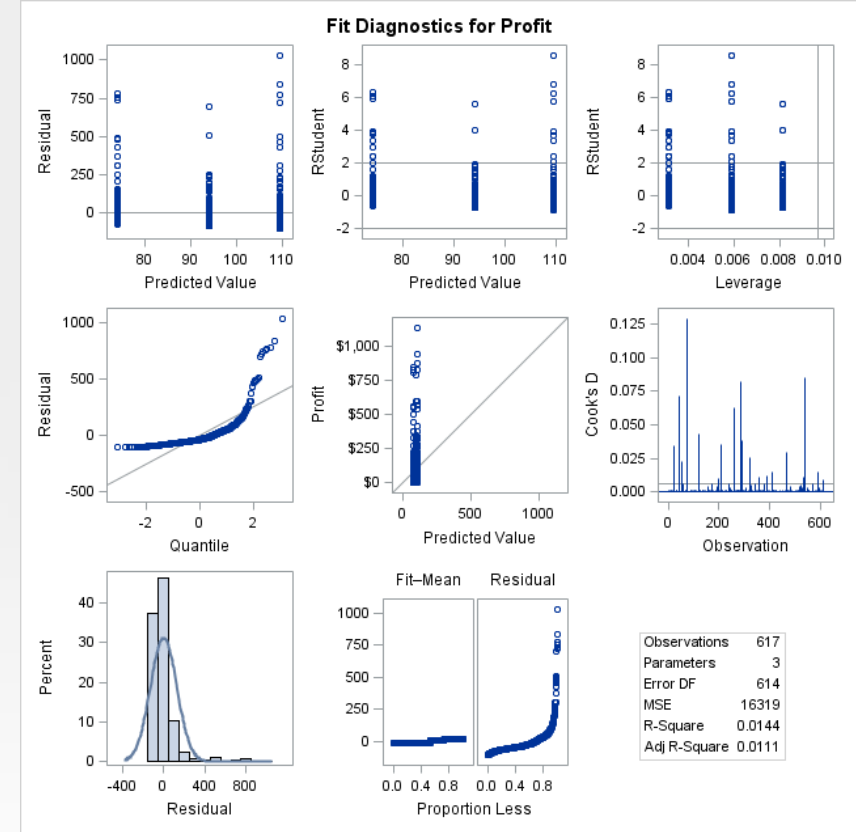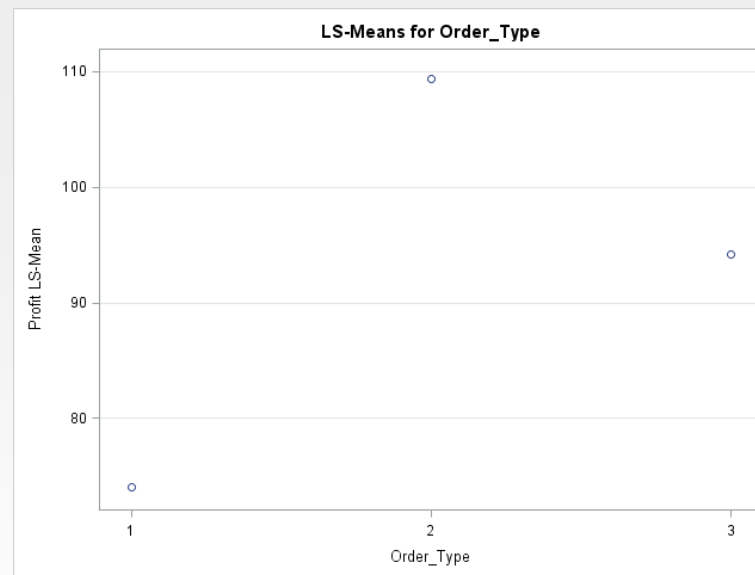
Introduction to SAS Enterprise Guide

- ## Overview Demonstration: Part 3

At the customary alpha=0.05, the pairwise comparisons show that groups 1 and 2 (retail and phone sales respectively) are significantly different. Neither is significantly different from group 3 (Internet sales). The means are plotted next.

Introduction to SAS Enterprise Guide

- ## Overview Demonstration: Part 3

  The comparisons plot shows dashed lines for groups that are not significantly different at an alpha = 0.05, and solid lines for groups that are significantly different.

Profit Comparisons for Order_Type
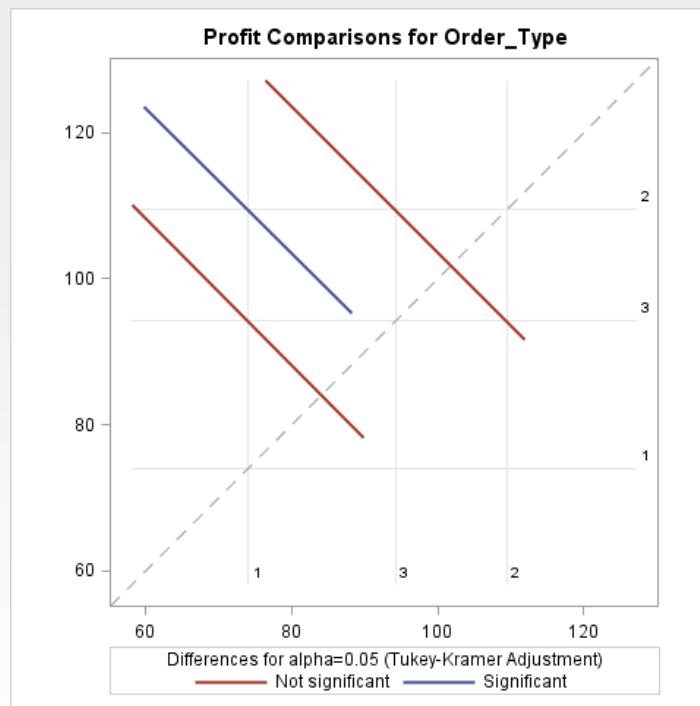
Introduction to SAS Enterprise Guide

- Overview Demonstration: Part 3
  8. Save the project.