SASEM 2B Exercise

Fundamental Summary Analytics & Filtering

(Fall 2017)

Sources (adapted with permission)-

T. P. Cronan, Jeff Mullins, Ron Freeze, and David E. Douglas Course and Classroom Notes
Enterprise Systems, Sam M. Walton College of Business, University of Arkansas, Fayetteville
Microsoft Enterprise Consortium
IBM Academic Initiative
SAS® Multivariate Statistics Course Notes & Workshop, 2010
SAS® Advanced Business Analytics Course Notes & Workshop, 2010
Microsoft® Notes
Teradata® University Network

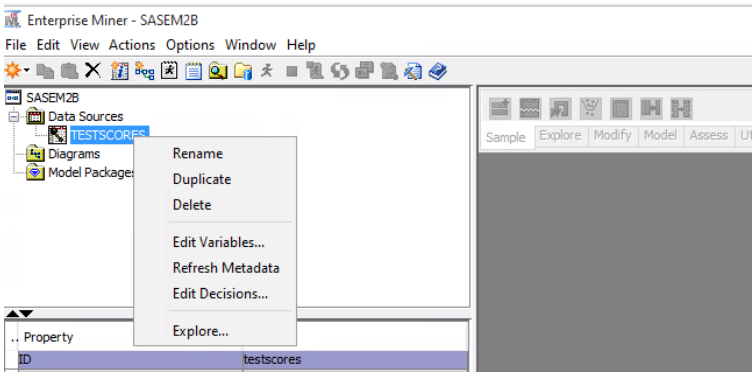
Exercise - Descriptive Statistics

Similar to SAS Enterprise Guide, SAS Enterprise Miner can also provide a review of some summary statistics (SASEG1) and allows you to Sort and Filter your data (SASEG1D). The goal of this tutorial will be to provide identical output from SAS EM that were provided in the tutorials for SAS EG. To start this

exercise, review SASEG0 for how to connect create a project in SAS EM and select a SAS Data Source. Connect the **TestScores** SAS dataset in your project. The path to the dataset is in SASEG1.

Summary Statistics

A review of the summary Statistics for a file or dataset is done with the **Explore** command in **SAS Enterprise Miner**.



1. Access **Explore** by right clicking on the **TestScores** data set under **Data Sources** in the **Task Tree**
2. Select **Explore**
3. There are three pop-up boxes created

    a. **Sample Properties** – this box describes the dataset that you are exploring. Note that the **Rows** and the **Fetched Rows** are the same number at 80. Since there has been to partitioning of data, these are the same. The **Columns** rows provide an indication of the number of variables – in this case there are three variables in the dataset. There are six other descriptors that will be discussed at a later date.

    b. **IS5503RF**.**TestScores** – The name for this pop-up will change with each dataset that you **Explore**. However, this is a listing of the actual data in your dataset for you to review.

    c. **Sample Statistics** – This pop-up provides the initial summary statistics for the dataset. Expand the pop-up to full screen and expand the columns to be able to read the names. Note that the **Variable Name** Gender is a **Type** Class with the **Number of Levels** at 2. The **Mode** is FEMALE and **Mode Percentage** is 50%. It does not make sense to provide a **Minimum**, **Maximum** and **Mean** value for a Class **Type** and so there is none. For the **Variable Name** SATScore, there is a **Minimum**, **Maximum** and **Mean** value provided, but not a **Number of Levels** since this is a VAR **Type**.

4. Compare what is provided in the Explore with the output from SAS EG. SAS EM does not provide some of the descriptive aspects that SAS EG provides. The following is the output from SASEG1.

Sample Statistics

Obs #	Variable Name	Label	Type	Percent Missing	Minimum	Maximum	Mean	Number of Levels	Mode Percentage	Mode
1	Gender		CLASS	0	.	.	.	2	50	FEMALE
2	IDNumber		VAR	0	2012997	99108497	49012506.		.	
3	SATScore		VAR	0	890	1600	1190.625.		.	

Descriptive Statistics for TESTSCORES

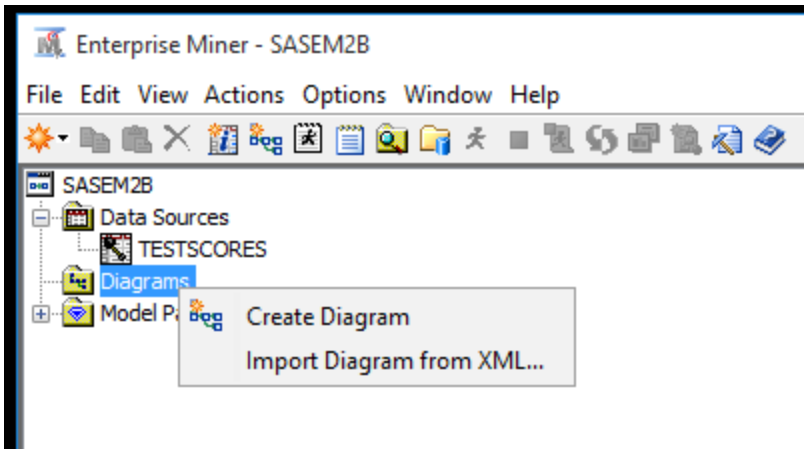
The MEANS Procedure

Analysis Variable : SATScore							
Mean	Std Dev	Minimum	Maximum	N	Lower Quartile	Median	Upper Quartile
1190.63	147.06	890.00	1600.00	80	1085.00	1170.00	1280.00

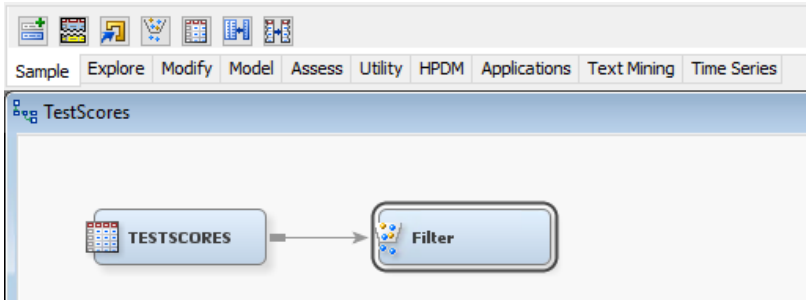
Filter

SAS Enterprise Miner also allows the ability to **Filter** your data. In order to do this, a diagram will need to be created.

5. Right Click on **Diagrams** in the **Task Tree** and select **Create Diagram**
6. Name the **Diagram** TestScores

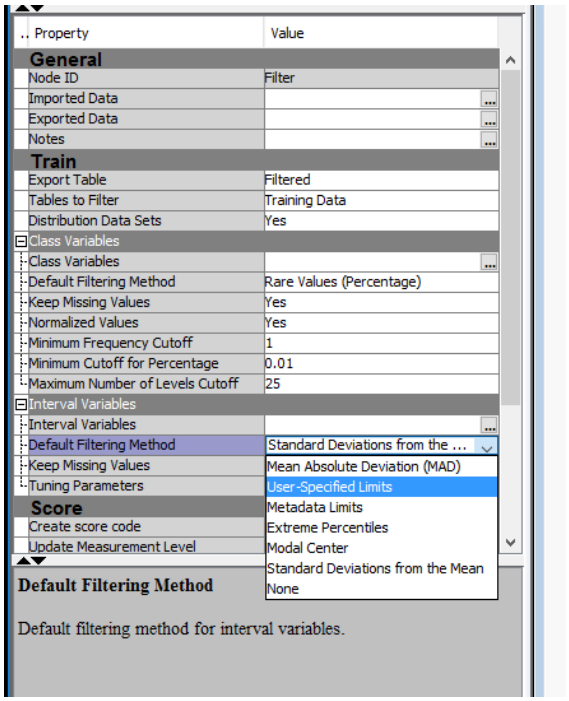


7. Drag and Drop the TESTSCORES Data Source to the diagram
8. Select the **Sample** tab
9. Drag and Drop the **Filter** node to the diagram
10. Connect the TESTSCORES data source node to the **Filter** node



The property panel on the left provides the specifics for filtering the data you are interested in passing along to the next node. Train is where the filtering you desire is specified. For this example we will include only those SATScores greater than 1200. Recall from our Summary Statistics that N = 80.

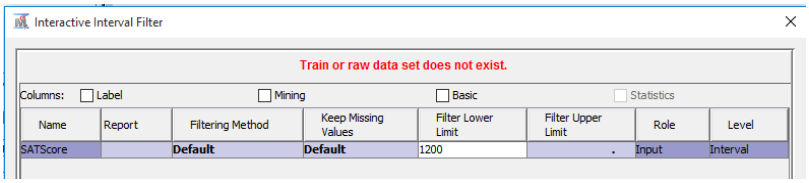
11. In the Property panel, select the down arrow for the following path – Train -> Interval Variables -> Default Filtering Method and select User-specified Limits



12. In the Property panel, select the ... for the following path – Train -> Interval Variables -> Interval Variables

13. Place 1200 in the Filter Lower Limit cell of the Interactive Interval Filter pop-up

14. Select OK



15. Right click on the Filter node and select Run – Yes

16. Once Run has completed, select Results

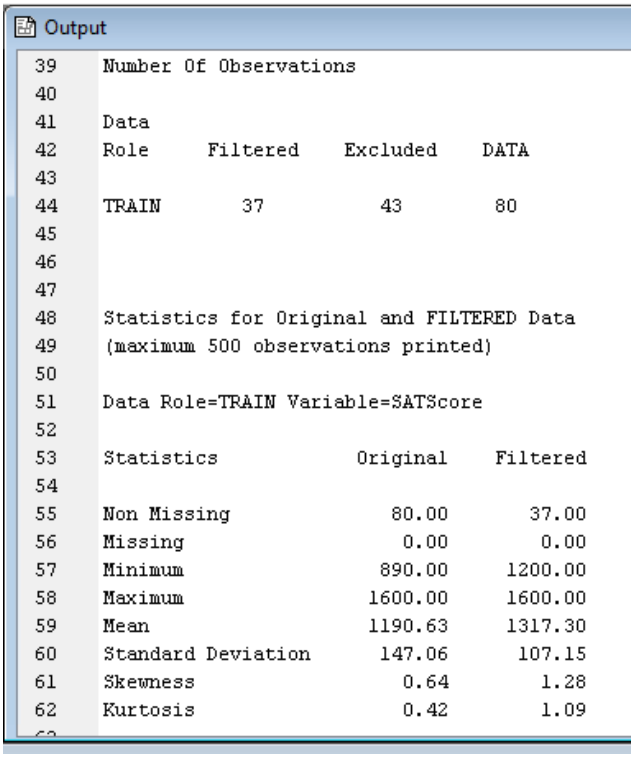
17. Scroll through the Output pop-up and note the following

    a. Number of Observations – 43 of the 80 observations have been excluded

    b. Statistics -> Minimum – Original SATScore was 890, Filtered SATScore is 1200

    c. Statistics -> Mean – Original SATScore was 1190.63, Filtered SATScore is 1317.30

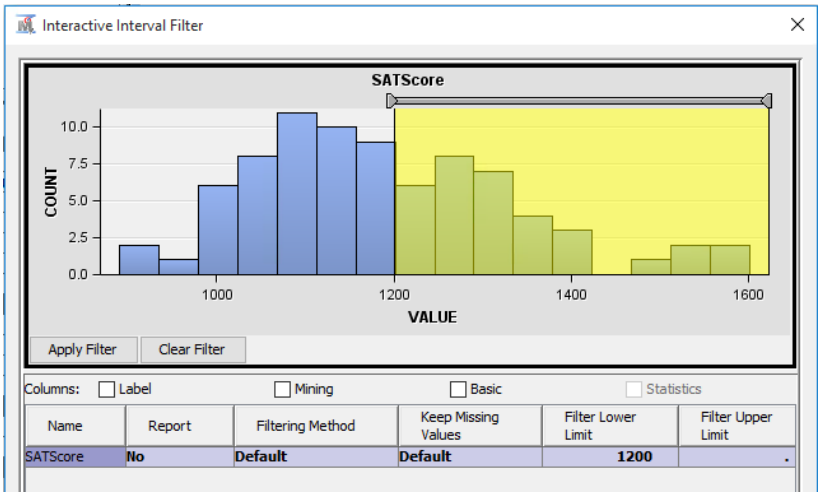
18. Close the Results pop-up



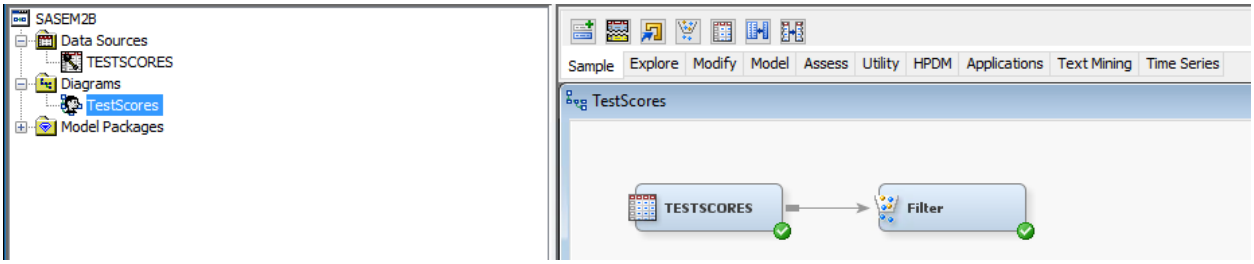
19. Open the Interactive Interval Filter again – Step 12 above

20. Note the interactive histogram that allows a selection of SATScores via a slider

21. Close the Interactive Interval Filter



22. The TestScores diagram has a green check next to both the TESTSCORES node and the Filter node. This indicates that both nodes have been ran.



23. Save and close your project