**SAS Studio Exercise** **03**

**Confidence Intervals**

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**Sources**

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# Use Case – Confidence Intervals

Razorback Stores is a local department store serving a metropolitan area. As a department store, they offer a wide variety of items and services and track sales through a point of sale system. Over the past several months, Razorback Stores performed a marketing campaign designed to promote and incentivize a loyalty program.

Razorback Stores is interested in being more knowledgeable about their data and so want to perform some market research. They are particularly interested in estimating the value of future sales.

## Step 0: Navigate to SAS Studio/Activate CAS Session

Before jumping into the ***Confidence Intervals*** task, please refer back to***SAS Studio 01 – Logging into the System*** to understand how to navigate to SAS Studio, activate a CAS session, and manage your data.

We will be using the Razorback Storesdataset which will be provided by your instructor and/or is available on blackboard. Once you have this dataset loaded on SAS Viya, following ***SAS Studio 01 – Logging into the System*** tutorial, load this dataset into memory in your personal userfolder.

## Step 1: Tasks

In order to access the **Confidence Intervals** taskwithin SAS Studio:

1. Click on the **Tasks** icon located on the left-panel
2. Expand the **SAS Tasks** folder
3. Expand the **Statistics** folder
4. Expand the **Descriptive** folder
5. Find **Summary Statistics** and double click on it

## Step 2: Select Data

Next, you need to select your data. In this case, we will be choosing **Razorback Stores** which can be found in our **User** folder. Under **DATA**,

1. Click on the **folder** icon located at the right of the current dataset in place

A new **Choose a Table** window will open,

1. Click on **Libraries**

A list of all the folders available to you will be displayed.

1. Click on **MYCASLIB** which references your **User** folder

All the different datasets found in your **User** folder will display on the right.

1. Click on **RAZORBACK\_STORES**
2. Click **OK**

## Step 3: Select Variables

Once you have **Razorback Stores** dataset selected, we need to select the variables we want to work with. You will notice red font color text which require you to select a minimum of one **Analysis variable**.

Notice that you can add two different type of variables under **ROLES**:

* 1. **Analysis variables:** what you want to observe, analyze (i.e. *Net Sales, Height, Weight, etc.)*
	2. **Classification variables:** what you want to classify your analysis variable in (i.e. *Gender, Method of Payment, Marital Status, etc.)*

Under **Analysis variables**,

1. Click on the **+** sign.

A new window will open,

1. Select **Items, Net Sales,** and **Gross Sales**
2. Click **OK**

For **Classification Variables** repeat the same steps as above but this time,

1. Click on **Type of Customer**
2. Click **OK**


## Step 4: Modify Settings

Once you have selected your dataset and variables, you can move to the **Options** tab where there are several different basic and additional statistics we can choose to run.

For this tutorial, we will be using a 95% confidence level.

1. Click on the **OPTIONS** tab

1. Under **Basic Statistics,** make sure that the following are checked: **Mean, Standard deviation, Minimum value, Maximum value,** and **Number of observations**

Expand **Additional Statistics** and,

1. Scroll down to find **Confidence limits for the mean**
2. Click to show a checkmark in the box to the left of **Confidence limits for the mean**

A **Confidence level** drop-down menu will appear.

1. Select **95%**

Notice that as we have selected a dataset, variables, and checked/unchecked settings, there is a code area on the right side of the screen that has been updating as we modified these.

1. Click **Run**

## Step 5: Results

Once the task has executed, you will have your **Summary Statistics** to view in the right most pane.

In order to better visualize the results, locate the three dots at the very right end of the screen under the current date and time.

1. Click on these three dots and,
2. Click on **Open in a browser tab**
3. Click on **Results**

Now we can review the results and see our **Confidence Intervals**, located on the far right of our descriptive statistics.

Summary Statistics Table:

Congratulations, you have successfully obtained confidence intervals in SAS Studio!