Introducing Statgraphics 19
Presented by Dr. Neil W. Polhemus
Python Interface
Features of Statgraphics/Python Interface

• Exchange data easily between Statgraphics and Python.

• Run saved Python scripts on data stored in a Statgraphics StatFolio.

• Retrieve output from Python and work with it in Statgraphics.

• Access Python libraries from within Statgraphics procedures.
Interfaces Menu
Installation and Configuration

1. To install Python, click one of the 'Download' links on the Python website.

2. After installing Python, enter the path to python.exe in the field below:
   C:\Users\neil.STATPOINT\AppData\Local\Programs\Python\Python37\python.exe

3. Set the maximum time to wait for Python to execute a set of commands:
   120  seconds

4. Install the Python modules for the procedures you want to use by clicking the buttons below.
   - List installed modules
   - Install IPython, Jupyter, Numpy, Pandas, Scipy
   - Install Matplotlib
   - Install Scikit-learn

   Required by all procedures.
   Required for creating graphs
   For machine learning algorithms
Exchange Data: Export

Export Data to Python

Step 1: Specify Python DataFrame to be created:
Name: data

Step 2: Select columns to transfer (if not all).
Select columns

Step 3: Export data to a CSV file:
Export: C:\Users\NEIL~1.STA\AppData\Local\Temp\statgraphics_data.csv

Step 4: Enter the following command in the Python window:
Copy
import pandas
import numpy
data = pandas.read_csv('C:\Users\NEIL~1.STA\AppData\Local\Temp\statgraphics_data.csv')
data = data.replace(-32768, numpy.NaN)

Step 5: To display the data, enter the following command in the Python window:
Copy
data.info
Exchange Data: Import

Import Data from Python

Step 1: Specify Python DataFrame to be imported:

Name: results

Step 2: Specify temporary file to be created:

Filename: C:\Users\NEIL~1.STAT\AppData\Local\Temp\Python_results.csv

Step 3: Enter the following command in the Python window:

Copy results.to_csv(r'C:\Users\NEIL~1.STAT\AppData\Local\Temp\Python_results.csv', index=False)

Step 4: Import data to a Statgraphics datasheet:

Import Sheet: B
Running Python Scripts

Interface to Python - Execute Script Options

Path to Python:
C:Users\neil\STATPOINT\AppData\Local\Programs\Python\Python37\python.exe

Exported data
Python DataFrame to be created:
| data |

Save strings as categorical variables
Remove unselected rows

Graph width:
5.0 inches

Graph height:
5.0 inches

Timeout:
60.0 seconds

Python commands:
import pandas as pd
from sklearn.datasets import load_iris
data = load_iris()
result = pd.DataFrame(data.data, columns=data.feature_names)
result.to_csv("C:\data\Python_results.csv", index=False)

Imported data
CSV file to be imported (if any):
C:\data\Python_results.csv
Datasheet:

Delete existing data

OK Cancel Help
Accessing Python Libraries
Accessing Python Libraries
Rerunning Script

Rerun Python Script

The script has been copied to the Windows Clipboard. Press the Launch button below to open the Python console. Then press Ctrl+V to rerun the script.

Launch  Cancel  Help
References

These notes and the recorded webinar will be posted at:

www.Statgraphics.com/webinars