MTK Basic Test 02 - Python Source Plus Minted

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1 Test Importing Custom Python Libraries

This section tests the ability to use custom Python libraries.

```
import MTK_Basic_Plotting

range_begin = -5
range_end = 5
x_vals = []
y_vals = []

f = x^3 + 3

# add 1 to range end to include the last desired value
for i in range (range_begin, range_end+1):
  x_vals.append(i)
  y_vals.append(f(x=i))

MTK_Basic_Plotting.MakeSimplePlot('', x_vals, 'x', y_vals, \
                                  'y', 'cubic.png')
```

Figure 1 ($y = x^3 + 3$) is generated by the Python code above by calling the custom Python basic plotting library, MTK_Basic_Plotting.

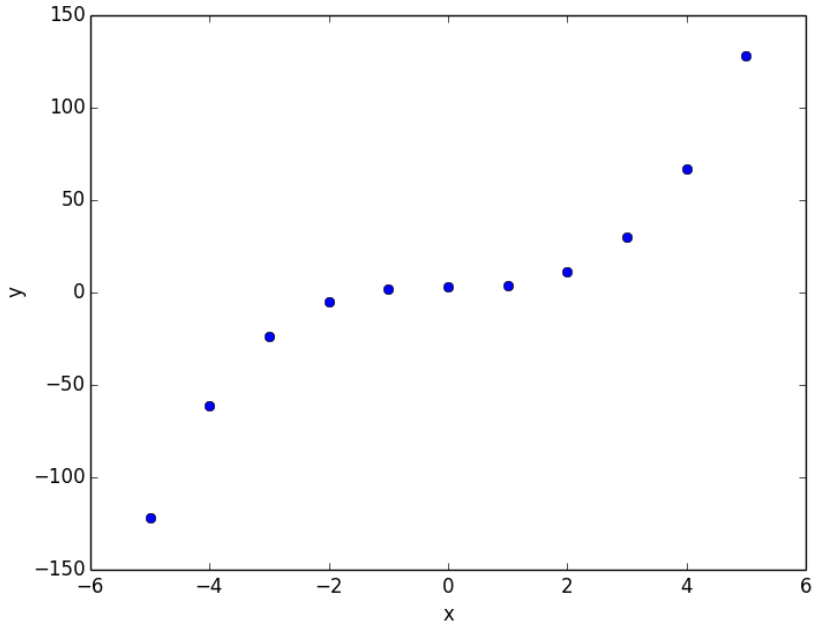

Figure 1: Demo plot from Sage

Appendix - Plotting Library Source Code

This section tests the ability to present formatted Python code in an external source file.

```
# MTK Basic Plotting Demo
# Author: J. Simmons
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```

```
15  # See the License for the specific language governing permissions and
16  # limitations under the License.
17
18  import numpy
19  import pylab
20
21  def MakeSimplePlot(title, x_vals, x_label, y_vals, y_label, filename):
22      """Make a simple x,y plot and save it to a file"""
23      x_arr = numpy.array(x_vals)
24      y_arr = numpy.array(y_vals)
25
26      pylab.clf()
27      pylab.plot(x_arr, y_arr, 'bo')
28      pylab.xlabel(x_label)
29      pylab.ylabel(y_label)
30      pylab.title(title)
31      pylab.savefig(filename)
```
