How can I save a Matplotlib figure to a file?

Authored by

stats writer

May 5, 2024

Saving a Matplotlib figure to a file refers to the process of exporting a visual representation of data created using the Matplotlib library to a permanent file on a computer. This allows for the figure to be shared, printed, or used for reference in the future. To save a Matplotlib figure, one must use the savefig() function, which allows for the selection of the desired file format and location. This function is a convenient and essential tool when working with data visualization in Matplotlib.

Save Matplotlib Figure to a File (With Examples)

You can use the following basic syntax to save a Matplotlib figure to a file:

```
import matplotlib.pyplotas plt

#save figure in various formats
plt.savefig('my_plot.png')
plt.savefig('my_plot.jpg')
plt.savefig('my_plot.pdf')
```

The following examples show how to use this syntax in practice.

Example 1: Save Matplotlib Figure to PNG File

The following code shows how to save a Matplotlib figure to a PNG file:

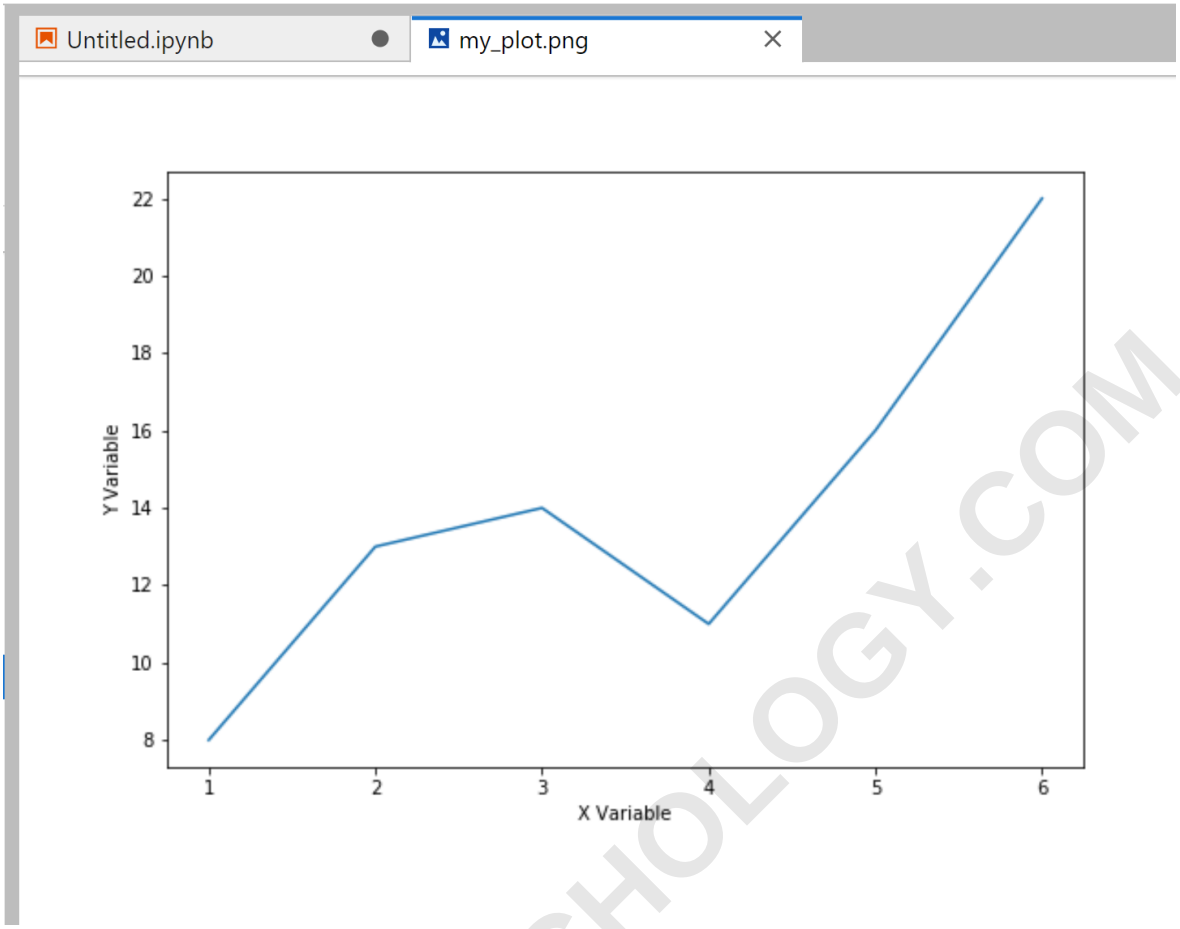
```
import matplotlib.pyplotas plt
```

```
#define data
x =
y =

#create scatterplot with axis labels
plt.plot(x, y)
plt.xlabel('X Variable')
plt.ylabel('Y Variable')

#save figure to PNG file
plt.savefig('my_plot.png')
```

If we navigate to the location where we saved the file, we can view it:

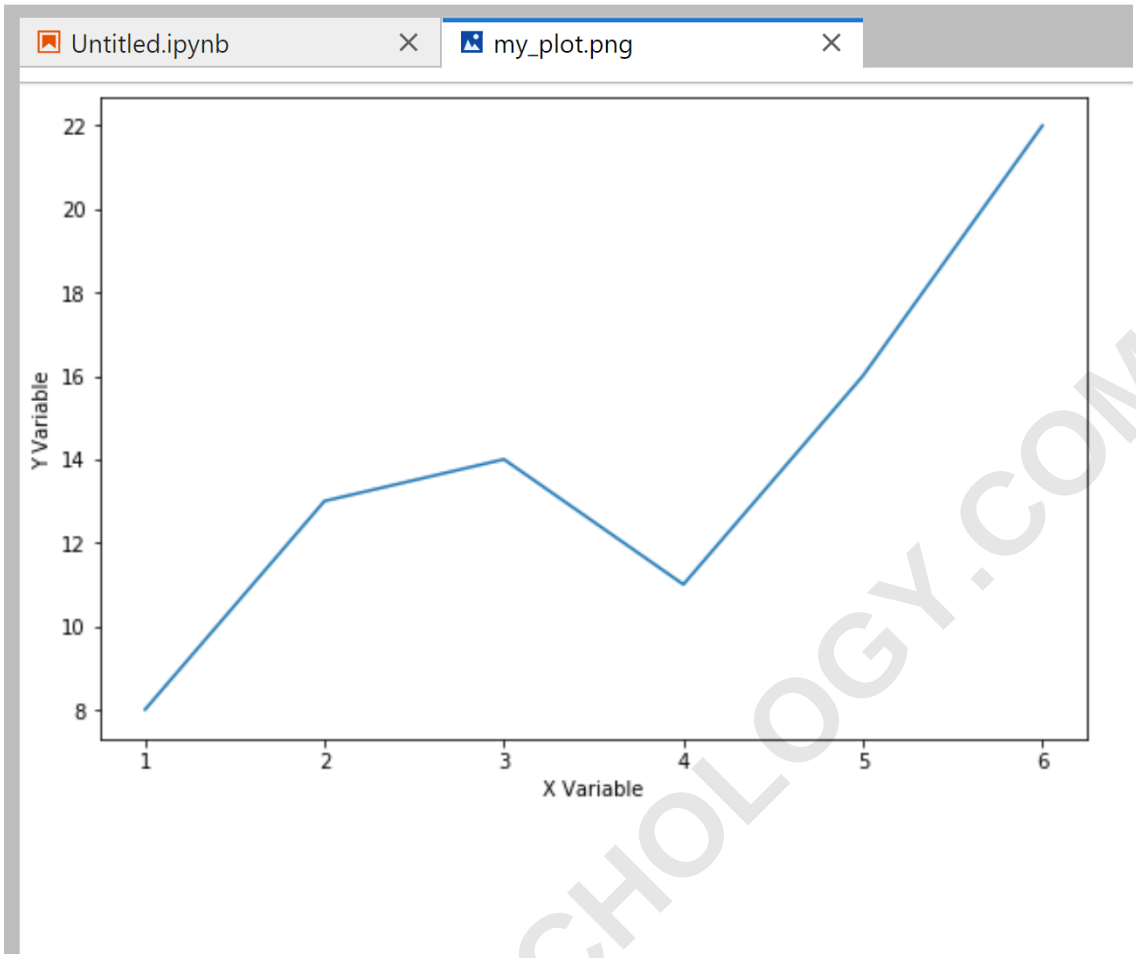


Example 2: Save Matplotlib Figure with Tight Layout

By default, Matplotlib adds generous padding around the outside of the figure.

To remove this padding, we can use the bbox_inches='tight' argument:

```
#save figure to PNG file with no padding
plt.savefig('my_plot.png', bbox_inches='tight')
```

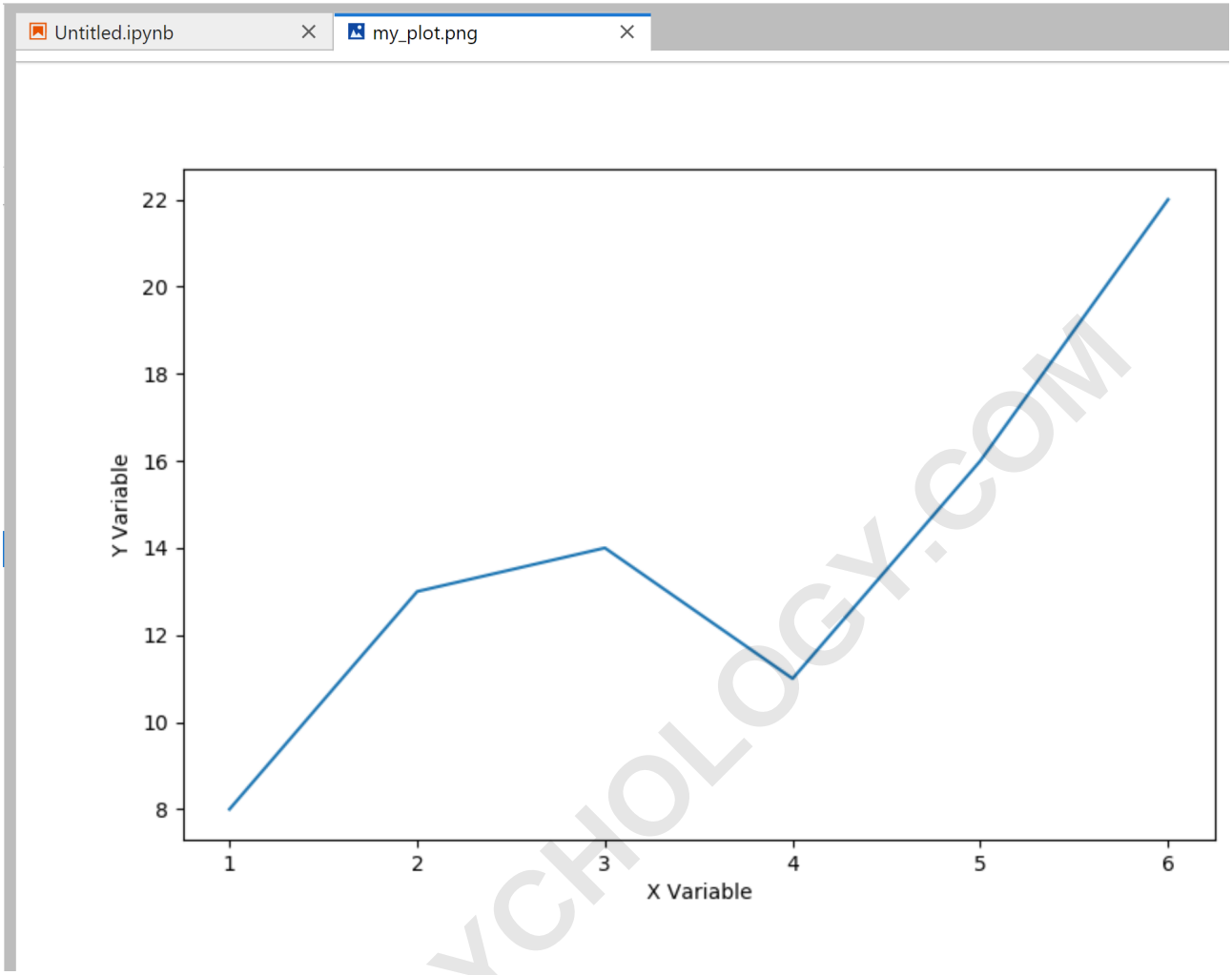


Notice that there is less padding around the outside of the plot.

Example 3: Save Matplotlib Figure with Custom Size

You can also use the dpi argument to increase the size of the Matplotlib figure when saving it:

```
#save figure to PNG file with increased size
plt.savefig('my_plot.png', dpi = 100)
```



You can find the complete online documentation for the Matplotlib savefig() function .

The following tutorials explain how to perform other common functions in Matplotlib: