To be fair, the Matplotlib team is addressing this: it has recently added the `plt.style` tools (discussed in "Customizing Matplotlib: Configurations and Stylesheets" on page 282), and is starting to handle Pandas data more seamlessly. The 2.0 release of the library will include a new default stylesheet that will improve on the current status quo. But for all the reasons just discussed, Seaborn remains an extremely useful add-on.

## Seaborn Versus Matplotlib

Here is an example of a simple random-walk plot in Matplotlib, using its classic plot formatting and colors. We start with the typical imports:

```
In[1]: import matplotlib.pyplot as plt
       plt.style.use('classic')
       %matplotlib inline
       import numpy as np
       import pandas as pd
```

Now we create some random walk data:

```
In[2]: # Create some data
       rng = np.random.RandomState(0)
       x = np.linspace(0, 10, 500)
       y = np.cumsum(rng.randn(500, 6), 0)
```

And do a simple plot (Figure 4-111):

```
In[3]: # Plot the data with Matplotlib defaults
       plt.plot(x, y)
       plt.legend('ABCDEF', ncol=2, loc='upper left');
```

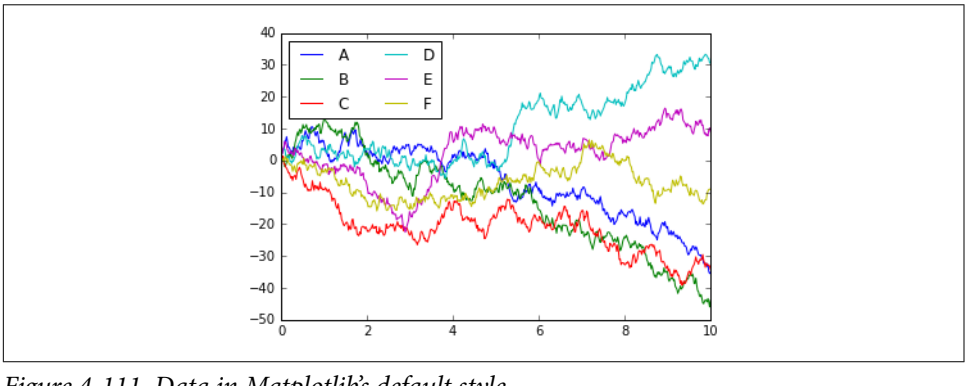


*Figure 4-111. Data in Matplotlib's default style*

Although the result contains all the information we'd like it to convey, it does so in a way that is not all that aesthetically pleasing, and even looks a bit old-fashioned in the context of 21st-century data visualization.

Now let's take a look at how it works with Seaborn. As we will see, Seaborn has many of its own high-level plotting routines, but it can also overwrite Matplotlib's default parameters and in turn get even simple Matplotlib scripts to produce vastly superior output. We can set the style by calling Seaborn's `set()` method. By convention, Seaborn is imported as `sns`:

```
In[4]: import seaborn as sns
       sns.set()
```

Now let's rerun the same two lines as before (Figure 4-112):

```
In[5]: # same plotting code as above!
       plt.plot(x, y)
       plt.legend('ABCDEF', ncol=2, loc='upper left');
```


*Figure 4-112. Data in Seaborn's default style*

Ah, much better!

## Exploring Seaborn Plots

The main idea of Seaborn is that it provides high-level commands to create a variety of plot types useful for statistical data exploration, and even some statistical model fitting.

Let's take a look at a few of the datasets and plot types available in Seaborn. Note that all of the following *could* be done using raw Matplotlib commands (this is, in fact, what Seaborn does under the hood), but the Seaborn API is much more convenient.