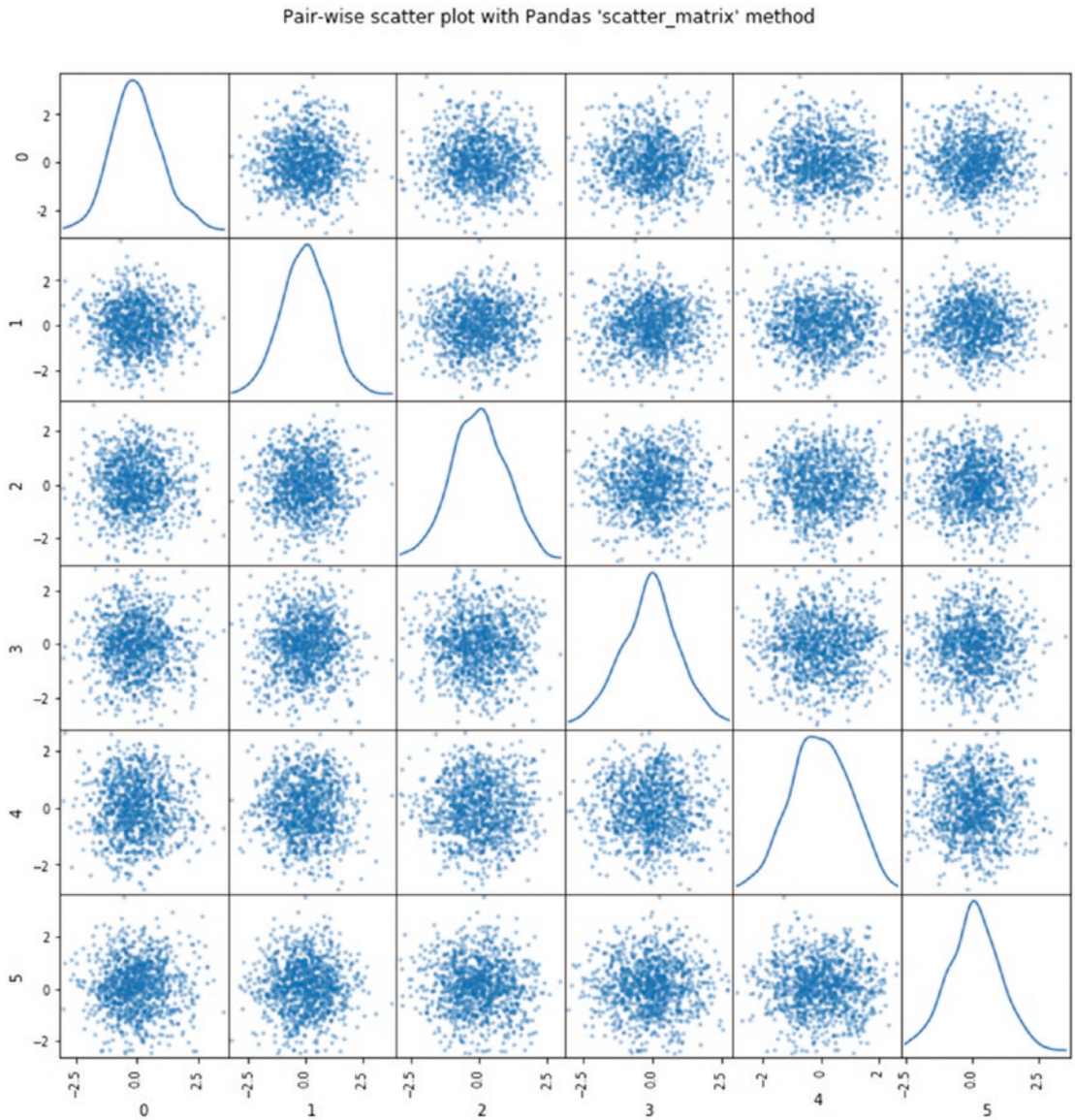**Figure 12-10.** *Scatter plot with seaborn*

Pairwise Scatter Plot

Pairwise scatter plot is an effective window for visualizing the relationships among multiple variables within the same plot. However, with higher-dimension datasets, the plot may become clogged up, so use it with care. Let's see an example of this with Matplotlib and seaborn.

Here, we will use the method **scatter_matrix**, one of the plotting functions in Pandas to graph a pairwise scatter plot matrix. The outputs with matplotlib and seaborn are shown in Figure 12-11 and Figure 12-12, respectively.

```
# create the dataset
data = np.random.randn(1000,6)
# using Pandas scatter_matrix
pd.plotting.scatter_matrix(pd.DataFrame(data), alpha=0.5, figsize=(12, 12),
diagonal='kde')
plt.show()
```

Pair-wise scatter plot with Pandas 'scatter_matrix' method

Figure 12-11. *Pairwise scatter plot with Pandas*

```
# pairwise scatter with seaborn
sns.pairplot(pd.DataFrame(data))
plt.show()
```
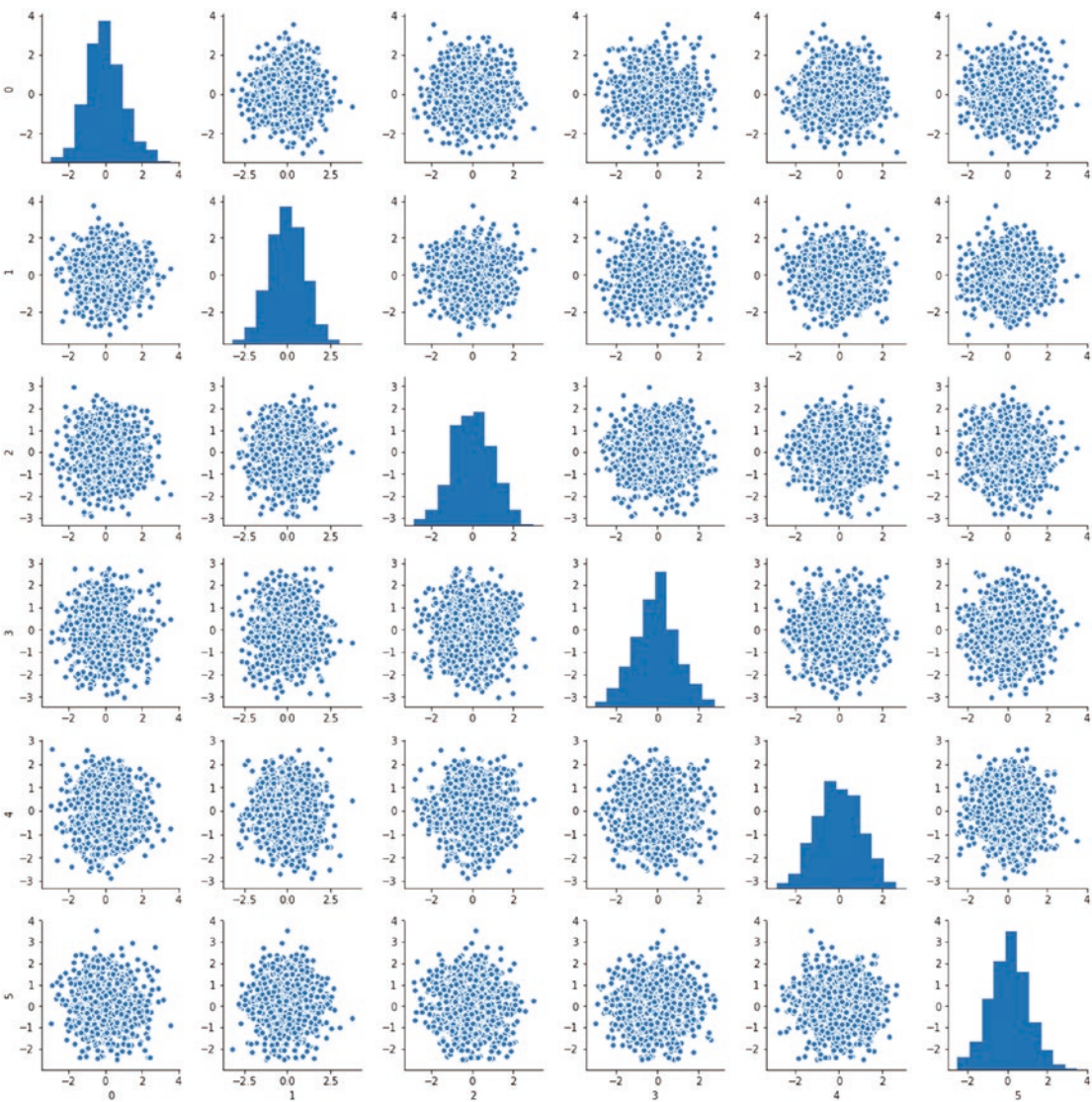
Figure 12-12. *Pairwise scatter plot with seaborn*

Correlation Matrix Plots

Again, correlation shows how much relationship exists between two variables. By plotting the correlation matrix, we get a visual representation of which variables in the dataset are highly correlated. Remember that parametric machine learning methods such as logistic and linear regression can take a performance hit when variables are