CHAPTER 1

Making Plots with matplotlib

Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python. It is highly useful for presenting data in a more intuitive and easy-to-understand manner.

In order to use Matplotlib, you must first import it, typically using the following line of code:

```
import matplotlib.pyplot as plt
```

Let's create a simple line plot. Suppose we have a list of numbers and we want to visualize their distribution:

```
x = [1, 2, 3, 4, 5]
y = [1, 4, 9, 16, 25]

plt.plot(x, y)
plt.show()
```

Here, 'x' and 'y' are the coordinates of the points. The 'plt.plot' function plots y versus x as lines and/or markers. The 'plt.show' function then displays the figure.

Creating a bar plot follows a similar approach:

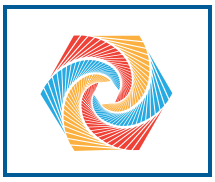
```
labels = ['A', 'B', 'C', 'D', 'E']
values = [5, 7, 9, 11, 13]

plt.bar(labels, values)
plt.show()
```

Here, 'labels' are the categories we are plotting, and 'values' are the respective sizes of those categories. The 'plt.bar' function creates a bar plot.

Matplotlib provides a variety of other plot types and customization options — everything from scatter plots and histograms to custom line styles and colors. Explore the official Matplotlib documentation to learn more about what this powerful library can offer.

Appendix A

Answers to Exercises



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