

Day 81- 90 days of Analytics: Matplotlib Basics

In today's video, we looked at the basics of matplotlib

The following were mentioned

-Matplotlib is a low-level graph plotting library in python that serves as a visualization utility.

-To install matplotlib, we use the command: `pip install matplotlib`

-After installation, we import we the command: `import matplotlib`

-Most of the Matplotlib utilities lies under the pyplot submodule, and are usually imported under the plt alias:

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

-The `%matplotlib inline` enables "inline plotting", where plotted graphics appear in your notebook.

-With Pyplot, we use the **xlabel()** and **ylabel()** methods to set a label for the x- and y-axis. Example

```
plt.xlabel("Day")
plt.ylabel("Temperature")
```

-With Pyplot, we use the **title()** method to set a title for the plot. Example

```
plt.title("Daily Temperature")
```

-The **plot()** method is used to draw points (markers) in a diagram. By default, the plot() function draws a line from point to point. The function takes parameters for specifying points in the diagram.

- **Parameter 1** is an array containing the points on the x-axis.
- **Parameter 2** is an array containing the points on the y-axis.

Example

```
plt.plot(day,max_temp,label="Max Temp")
plt.plot(day,min_temp,label="Min Temp")
plt.plot(day,avg_temp,label="Avg Temp")
```

-The legend() method permits us to place a legend on the map. The **loc** parameter of the legend method permits us to precise its location. Example

```
plt.legend(loc="lower left")
```

-With Pyplot, we use the **bar()** method to draw bar graphs. Example

```
shop = ['shop1','shop2','shop3','shop4']
revenue = [110,156,109,47]
plt.bar(shop,revenue, label = 'Revenue')
```

-We use the **barh()** method if we want the bars to be displayed horizontally. Example

```
plt.barh(shop,revenue, label = 'Revenue')
```

-In Matplotlib, we use the **hist()** method to create histograms. The **hist()** function will use an array of numbers to create a histogram, the array is sent into the function as an argument. Example

```
visitors = [113, 85, 90, 150, 149, 88, 93, 115, 135, 80, 77, 82, 129]
plt.hist(visitors)
```

-With Pyplot, we use the **pie()** method to draw pie charts. We add labels to the pie chart with the **label** parameter. The label parameter must be an array with one label for each wedge. Example

```
units_sold = [1600,800,500,610,450]
product = ["Rice","Milk","Beans","Garri","Sugar"]
plt.pie(units_sold, labels=product)
plt.show()
```

-To save a figure, we use the savefig() method. Example

```
plt.savefig("product.jpg", bbox_inches='tight', pad_inches=1, transparent=True)
```

Link to the YouTube Recording: <https://www.youtube.com/watch?v=tXtceQtdAhg>

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