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Data Visualization with Python

Cheat Sheet: Plotting with Matplotlib using Pandas

Plot Type	Description	Pandas Function	Example	Visual
Line Plot	Shows trends and changes over time	<pre>DataFrame.plot.line() DataFrame.plot(kind = 'line')</pre>	<pre>df.plot(x='year', y='sales', kind='line')</pre>	5000
Area Plot	Displays data series as filled areas, showing the relationship between them	<pre>DataFrame.plot.area() DataFrame.plot(kind = 'area')</pre>	<pre>df.plot(kind='area')</pre>	6000- 5000- 3000- 1000- 0 1860 1865 1865 2060 2003
Histogram	Displays bars representing the data count in each interval/bin	<pre>Series.plot.hist() Series.plot(kind = 'hist', bins = n)</pre>	<pre>s.plot(kind='hist', bins=10) df['age'].plot(kind='hist', bins=10)</pre>	10 10 10 10 10 10 10 10 10 10 10 10 10 1
Bar Chart	Displays data using rectangular bars	<pre>DataFrame.plot.bar() DataFrame.plot(kind = 'bar')</pre>	df.plot(kind='bar')	1000 - 10
Pie Chart	Displays data as a circular plot divided into slices, representing proportions or percentages of a whole	<pre>Series.plot.pie() Series.plot(kind = 'pie') DataFrame.plot.pie(y, labels) DataFrame.plot(kind = 'pie')</pre>	<pre>s.plot(kind='pie',autopct='%1.1f%%') df.plot(x='Category',y='Percentage',kind='pie')</pre>	1981 2 1982 2 1983
Box Plot	Displays the distribution of a dataset along with key statistical measures	<pre>DataFrame.plot.box() DataFrame.plot(kind = 'box')</pre>	<pre>df_can.plot(kind='box')</pre>	0 6000 - 0 5000 - 0 4000 - 3000 - 2000 - Helit
Scatter Plot	Uses Cartesian coordinates to display values for two variables	<pre>DataFrame.plot.scatter() DataFrame.plot(x, y, kind = 'scatter')</pre>	<pre>df.plot(x='Height', y='Weight', kind='scatter')</pre>	Scatter Plot with Positive Correlati 1.75 1.50 1.00 0.75 0.50 0.25 0.00 0.20 0.40 0.60 0.80

Cheat Sheet: Plotting directly with Matplotlib

Plot Type	Description	Matplotlib Function	Example	Visual
Line Plot	Shows trends and changes over time	plt.plot()	<pre>plt.plot(x, y, color='red', linewidth=2)</pre>	7

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fig, axes = plt.subplots(nrows=2,

ncols=2)

plt.title('Title')
plt.xlabel('X Label')
plt.ylabel('Y Label')

plt.legend()
plt.grid(True)

Author(s)

Subplotting

Creating multiple plots on

one figure

Customization Customizing plot: adding labels, title, legend, grid

plt.subplots()

Various customization

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