Matplotlib & Seaborn Visualization Cheatsheet

Plot Type	Analysis Type	Column Types	Matplotlib	Seaborn	Use Case / Example
Histogram	Univariate	Numeric	plt.hist()	sns.histplot()	Visualize distribution of ages
Boxplot	Univariate	Numeric	plt.boxplot()	sns.boxplot()	Detect outliers in income data
KDE Plot	Univariate	Numeric	N/A	sns.kdeplot()	Smooth distribution of height values
Count Plot	Univariate	Categorical	N/A	sns.countplot()	Frequency of product categories
Bar Plot	Bivariate	Categorical vs Numeric	plt.bar()	sns.barplot()	Average salary per department
Scatter Plot	Bivariate	Numeric vs Numeric	plt.scatter()	sns.scatterplot()	Height vs Weight
Line Plot	Bivariate	Numeric vs Numeric (time)	plt.plot()	sns.lineplot()	Stock prices over time
Boxplot	Bivariate	Categorical vs Numeric	plt.boxplot()	sns.boxplot()	Sales by region
Violin Plot	Bivariate	Categorical vs Numeric	N/A	sns.violinplot()	Score distribution by class
Strip Plot	Bivariate	Categorical vs Numeric	N/A	sns.stripplot()	Exam scores by section
Swarm Plot	Bivariate	Categorical vs Numeric	N/A	sns.swarmplot()	Petal lengths by species
Hexbin	Bivariate	Numeric vs Numeric	plt.hexbin()	sns.histplot(..., bins='log')	Density of GPS coordinates
Pair Plot	Multivariate	Multiple Numeric	N/A	sns.pairplot()	Iris dataset feature relationships
Heatmap	Multivariate	Matrix (correlation or pivot)	N/A	sns.heatmap()	Correlation between features

Common Parameters in Seaborn & Matplotlib

Parameter	Used In	Purpose	Example
hue	Seaborn plots	Group data by a categorical variable	sns.barplot(x='day', y='total_bill', hue='sex', data=df)
style	sns.lineplot, sns.scatterplot	Change marker style per group	sns.lineplot(x='time', y='value', style='event', data=df)
size	sns.scatterplot	Control size of markers	sns.scatterplot(x='x', y='y', size='pop', data=df)
palette	Most Seaborn plots	Set color scheme	sns.countplot(x='category', palette='pastel')
order	Categorical plots	Custom order of categories	sns.boxplot(x='day', y='tip', order=['Sun', 'Sat'], data=df)
col / row	sns.FacetGrid	Create subplot grid by column/row	sns.catplot(x='day', y='tip', col='sex', data=df)
alpha	Matplotlib & Seaborn	Set transparency	sns.scatterplot(x, y, alpha=0.6)
linewidth	Line/box plots	Set line width	sns.lineplot(x, y, linewidth=2.5)
bins	Histograms	Control number of bins	sns.histplot(data=df, bins=20)
orient	Box/violin/strip plots	Orientation of the plot (h/v)	sns.boxplot(x='val', orient='h')