

Python Programming

Unit 06 – Lecture 06: Plot Types and Subplots

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Repository: <https://github.com/tali7c/Python-Programming>

Quick Links

Core Concepts

Demo

Interactive

Summary

Agenda

1 Core Concepts

2 Demo

3 Interactive

4 Summary

Learning Outcomes

- Create different plot types: line, bar, histogram, scatter, pie

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- Build multi-plot figures using subplots

Learning Outcomes

- Create different plot types: line, bar, histogram, scatter, pie
- Build multi-plot figures using subplots
- Choose the right plot type for the data story

Common Plot Types

- Line plot: trend over time

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Common Plot Types

- Line plot: trend over time
- Bar chart: compare categories
- Histogram: distribution of values
- Scatter plot: relationship between two variables
- Pie chart: parts of a whole (use carefully)

Subplots

- Subplots allow multiple plots in one figure

```
fig, ax = plt.subplots(2, 2)  
ax[0, 0].plot(x, y)
```

Subplots

- Subplots allow multiple plots in one figure
- Use `plt.subplots(rows, cols)`

```
fig, ax = plt.subplots(2, 2)  
ax[0, 0].plot(x, y)
```

Demo: Multiple Plot Types in One Figure

- File: `demo/matplotlib_plot_types_demo.py`

Demo: Multiple Plot Types in One Figure

- File: `demo/matplotlib_plot_types_demo.py`
- Generates a figure with subplots and saves it to `images/`

Checkpoint 1

Question: Which plot type would you use to show distribution of marks of 100 students?

Checkpoint 2

Question: Which plot type would you use to compare marks of 5 subjects?

Think-Pair-Share

Discuss:

- Why can pie charts be misleading?

Key Takeaways

- Different plot types answer different questions

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- Subplots help compare multiple views of data in one figure

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- Different plot types answer different questions
- Subplots help compare multiple views of data in one figure
- Always label and choose scales carefully for honest visuals

Exit Question

Write the function name used to create subplots in Matplotlib.