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PRACTICE SESSION ASSIGNMENT

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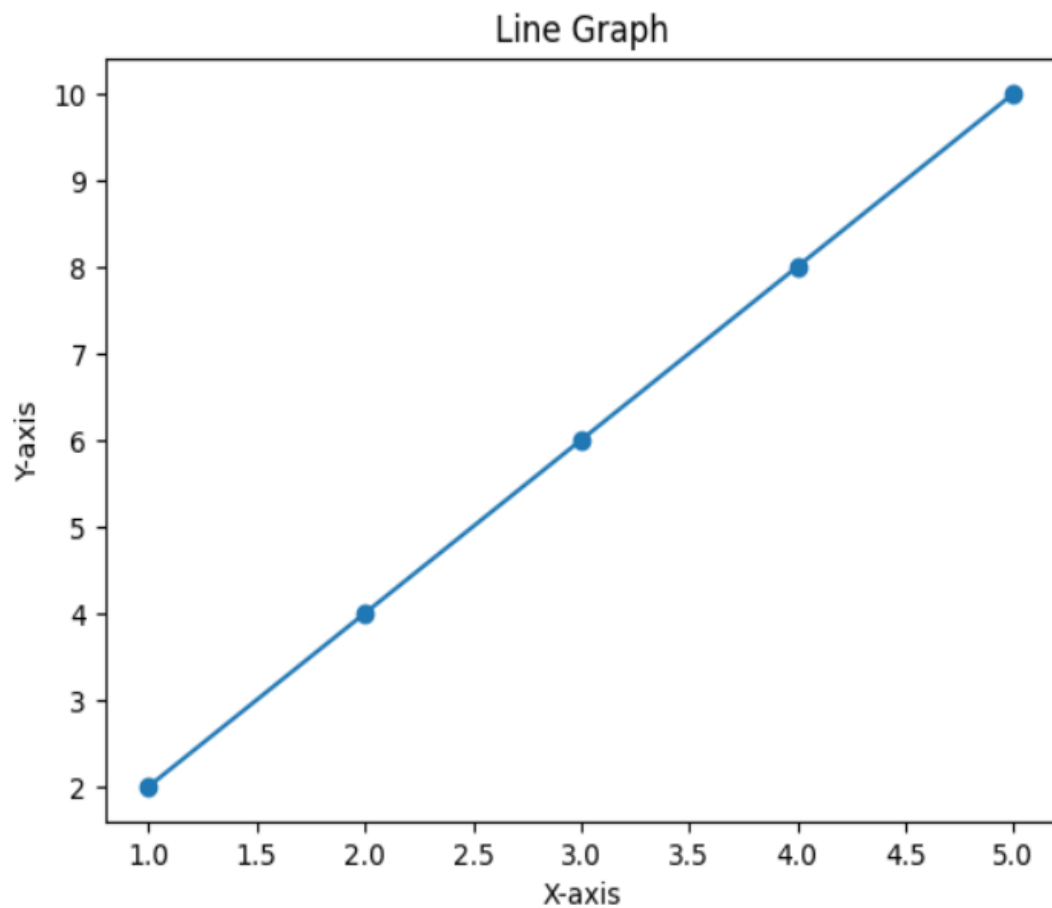
7.SUBPLOT

1.Line Chart

```
import matplotlib.pyplot as plt

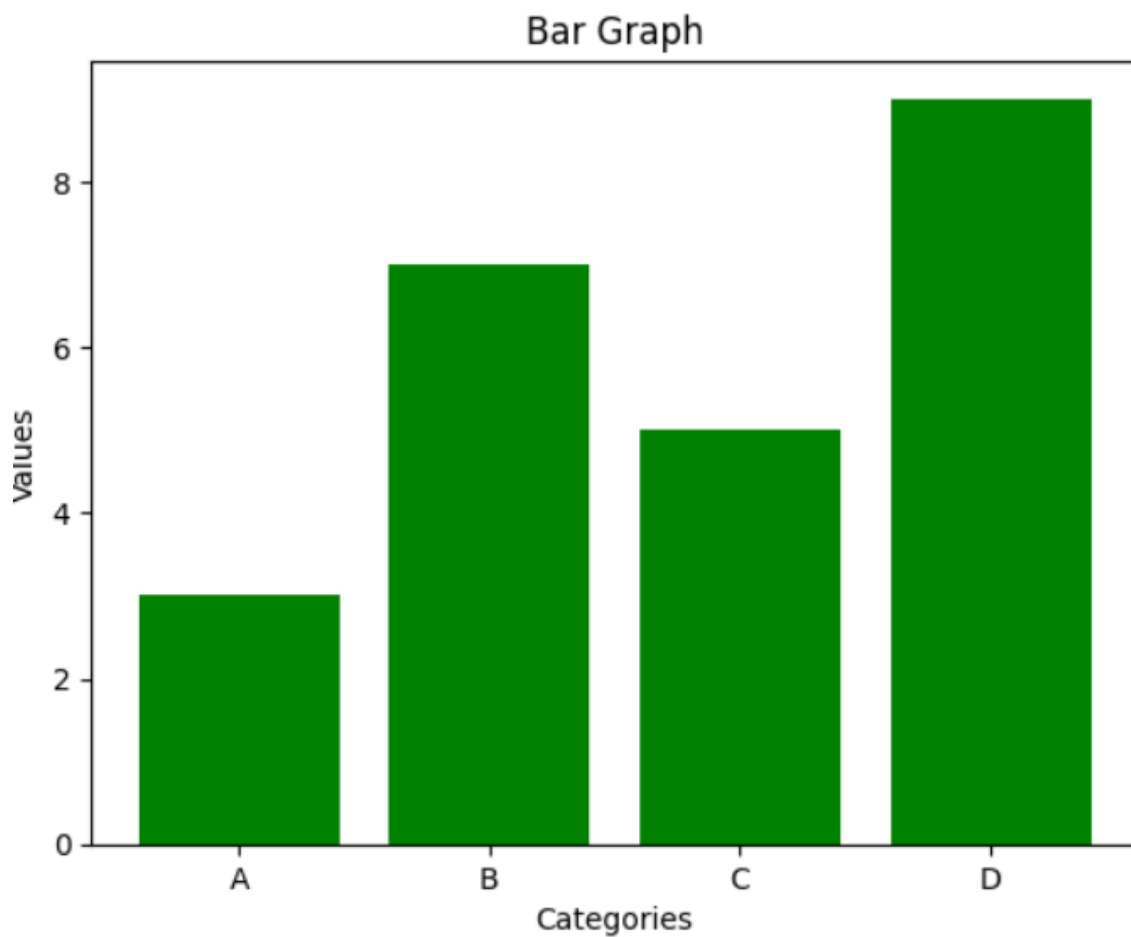
x = [1, 2, 3, 4, 5]
y = [2, 4, 6, 8, 10]

plt.plot(x, y, marker='o')
plt.title('Line Graph')
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.show()
```



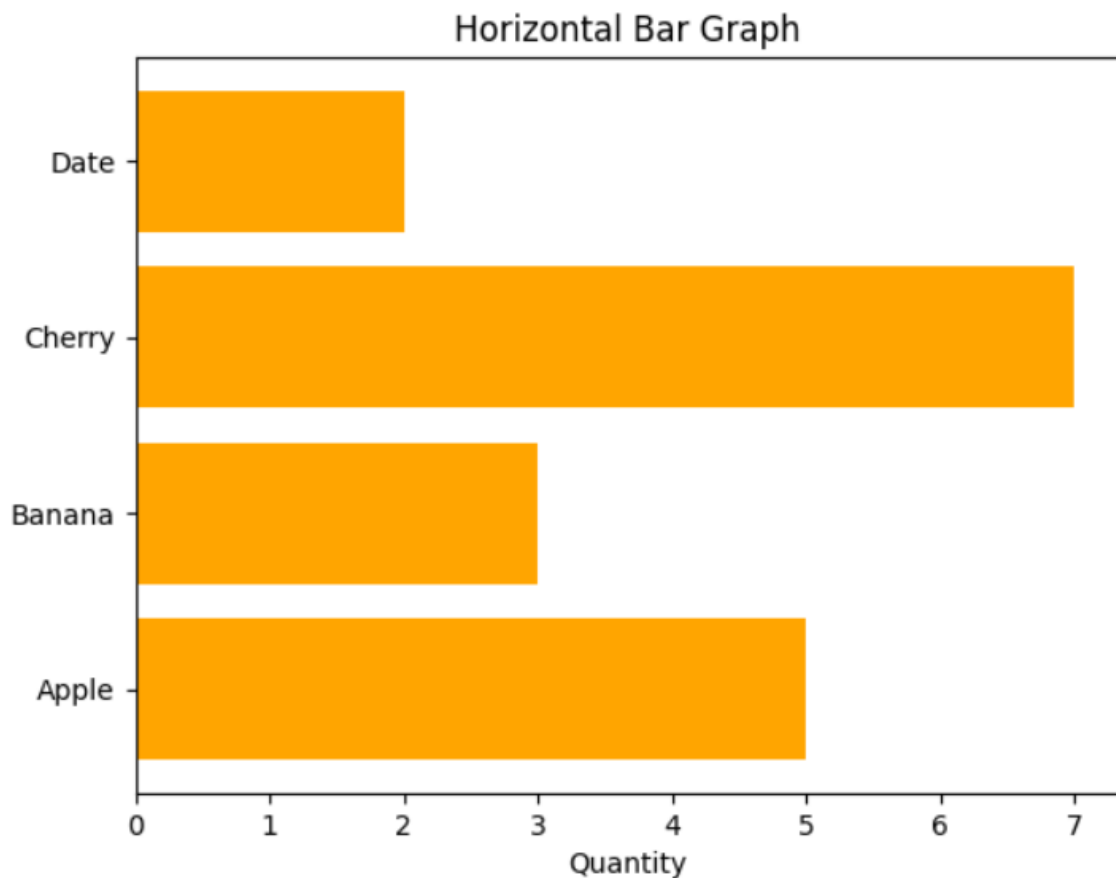
2.Bar chart

```
[2] x = ['A', 'B', 'C', 'D']  
    y = [3, 7, 5, 9]  
  
    plt.bar(x, y, color='green')  
    plt.title('Bar Graph')  
    plt.xlabel('Categories')  
    plt.ylabel('Values')  
    plt.show()
```



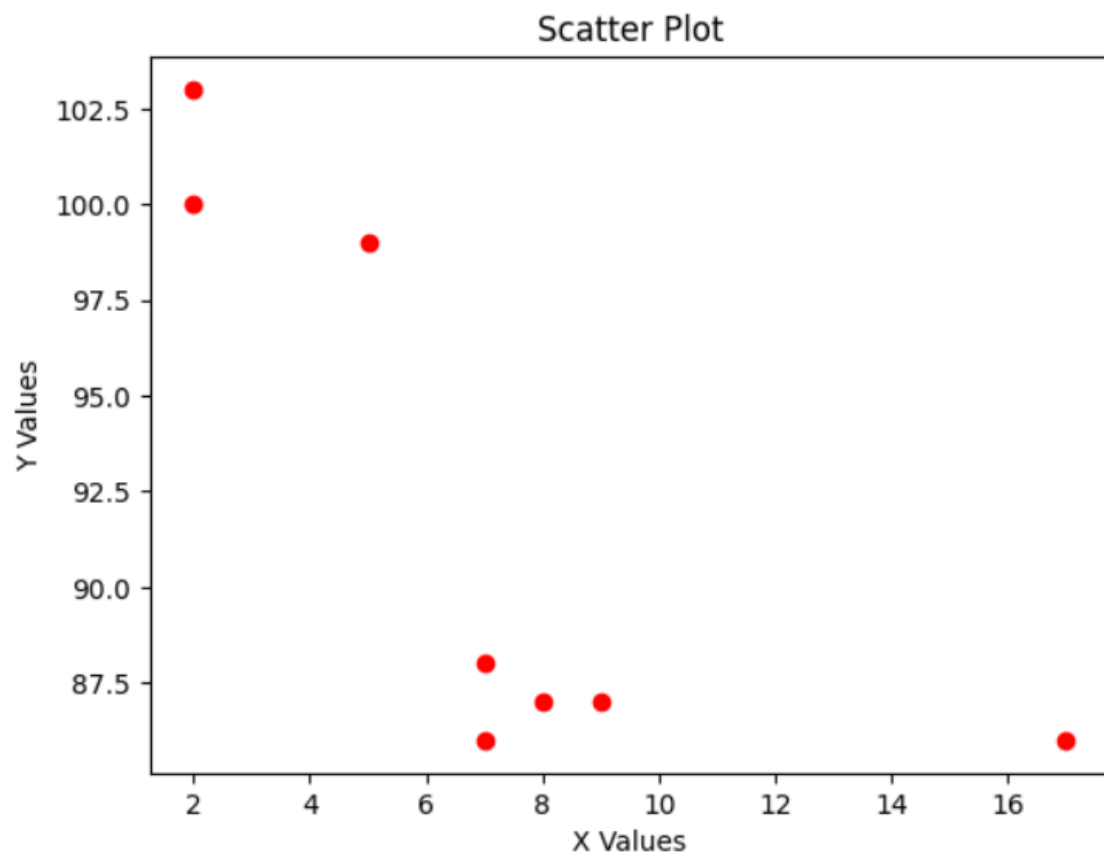
3.Horizontal Bar Graph

```
[3] x = ['Apple', 'Banana', 'Cherry', 'Date']  
    y = [5, 3, 7, 2]  
  
    plt.barh(x, y, color='orange')  
    plt.title('Horizontal Bar Graph')  
    plt.xlabel('Quantity')  
    plt.show()
```



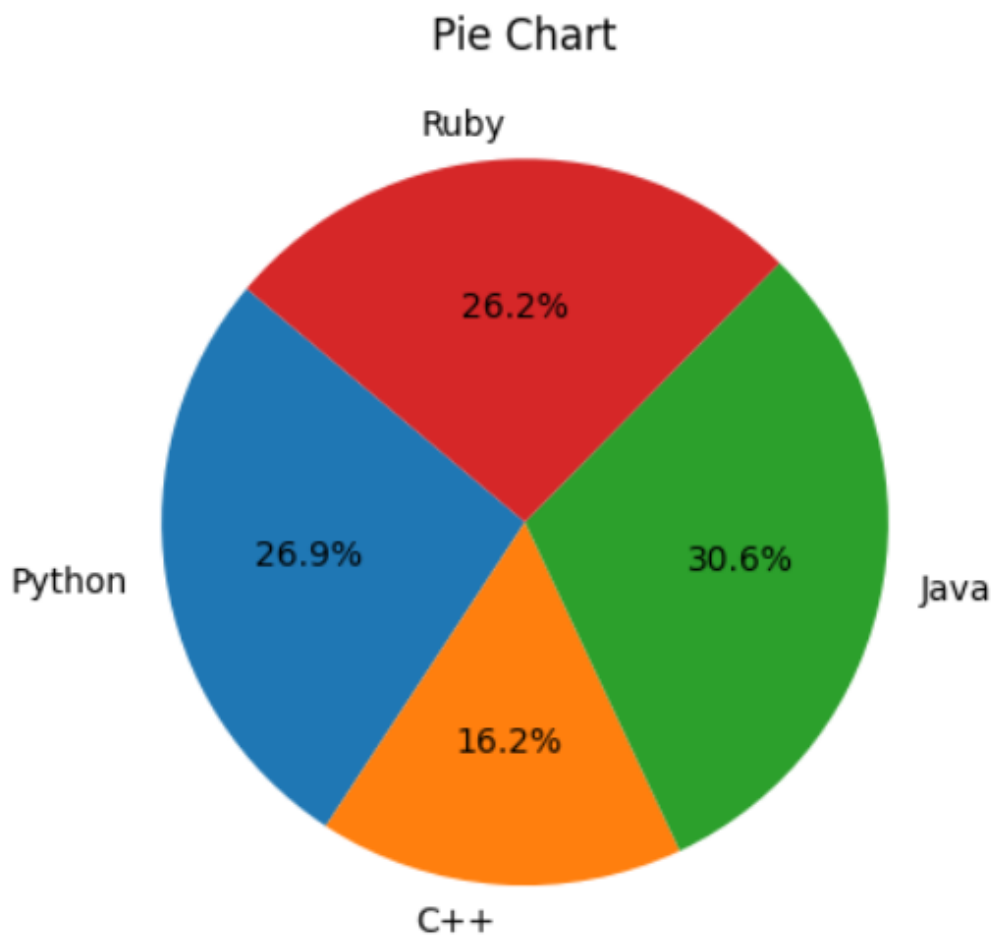
4.Scatter Plot

```
✓  
ls [4] x = [5, 7, 8, 7, 2, 17, 2, 9]  
     y = [99, 86, 87, 88, 100, 86, 103, 87]  
  
     plt.scatter(x, y, color='red')  
     plt.title('Scatter Plot')  
     plt.xlabel('X Values')  
     plt.ylabel('Y Values')  
     plt.show()
```



5. Pie Chart

```
[7] labels = ['Python', 'C++', 'Java', 'Ruby']  
    sizes = [215, 130, 245, 210]  
  
    plt.pie(sizes, labels=labels, autopct='%1.1f%%', startangle=140)  
    plt.title('Pie Chart')  
    plt.show()
```



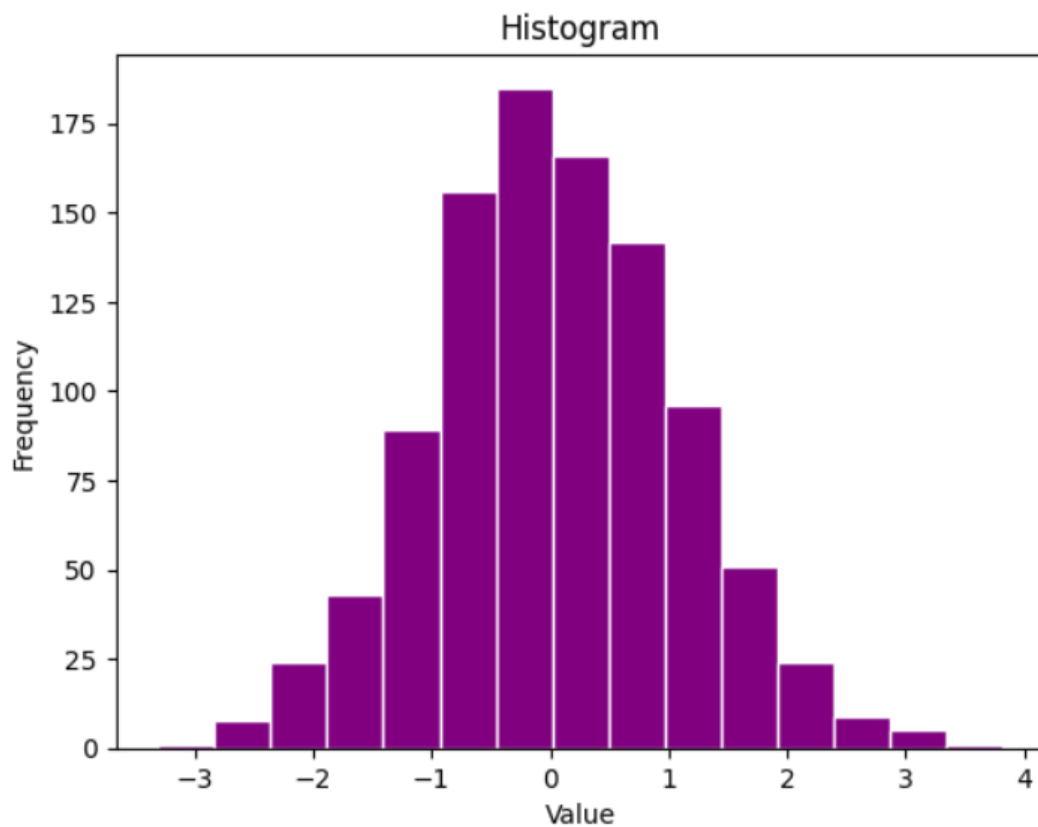
6. Histogram

✓
ls

```
9 import numpy as np

data = np.random.randn(1000)

plt.hist(data, bins=15, color='purple', edgecolor='white')
plt.title('Histogram')
plt.xlabel('Value')
plt.ylabel('Frequency')
plt.show()
```



7.Subplot

```
import matplotlib.pyplot as plt

# Create a 2x2 grid of plots
fig, axes = plt.subplots(2, 2)

# Plot 1
axes[0, 0].plot([1, 2, 3, 4], [10, 20, 25, 30])
axes[0, 0].set_title('Line Plot')

# Plot 2
axes[0, 1].bar(['A', 'B', 'C', 'D'], [5, 7, 3, 4])
axes[0, 1].set_title('Bar Chart')

# Plot 3
axes[1, 0].scatter([5, 7, 8, 5], [50, 60, 70, 80], color='red')
axes[1, 0].set_title('Scatter Plot')

# Plot 4
axes[1, 1].pie([10, 20, 30, 40], labels=['P1', 'P2', 'P3', 'P4'], autopct='%1.1f%%')
axes[1, 1].set_title('Pie Chart')

# Adjust layout to prevent overlap
plt.tight_layout()

# Show the figure
plt.show()
```

