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In [17]: import pandas as pd
import numpy as np
import timeit

# Create a sample pandas data frame
df = pd.DataFrame({'Group': np.repeat(list('abc'), 100000),
                  'Value': np.random.randn(300000)})

# Measure the time taken for grouping and summarizing
grouping_time = timeit.timeit(lambda: df.groupby('Group').agg({'Value': ['sum', 'mean']}), number=10)

# Measure the time taken for splitting
splitting_time = timeit.timeit(lambda: dict(tuple(df.groupby('Group'))), number=10)

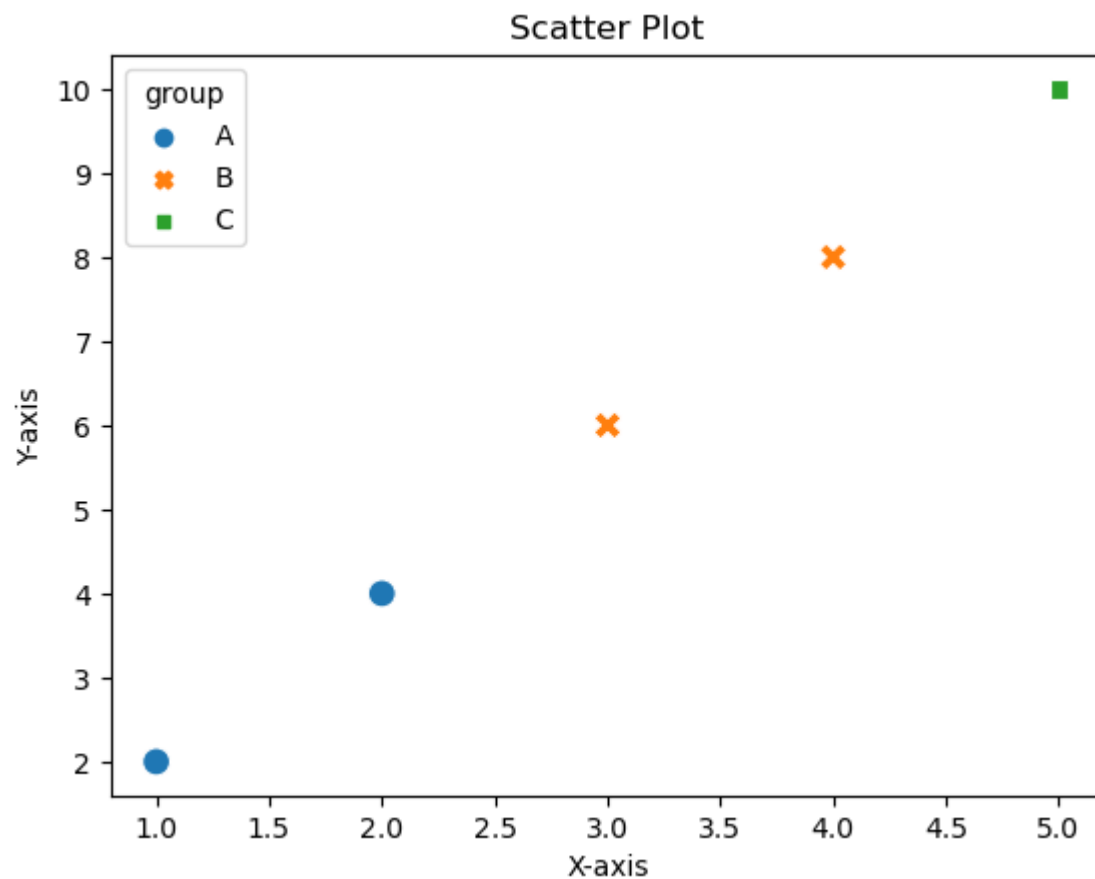
# Print the results
print("Grouping Time:", grouping_time, "seconds")
print("Splitting Time:", splitting_time, "seconds")
```

Grouping Time: 0.470510708168149 seconds  
Splitting Time: 0.5377200543880463 seconds

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In [5]: import seaborn as sns

# Create a sample data frame
df = pd.DataFrame({
    'x': [1, 2, 3, 4, 5],
    'y': [2, 4, 6, 8, 10],
    'group': ['A', 'A', 'B', 'B', 'C']
})

# Create a scatter plot with different colors and markers for each group
sns.scatterplot(data=df, x='x', y='y', hue='group', style='group', s=100)
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.title('Scatter Plot')
plt.show()
```



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In [23]: import seaborn as sns
import matplotlib.pyplot as plt

# Create a sample data frame
df = pd.DataFrame({
    'x': range(1, 101),
    'y': np.random.randn(100),
    'group': np.repeat(list('abcd'), 25),
    'category': np.repeat(['A', 'B'], 50)
})

# Create subplots
fig, axes = plt.subplots(nrows=2, ncols=2, figsize=(10, 8))

# Iterate over groups
for ax, (group, data) in zip(axes.flatten(), df.groupby('group')):
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# Create scatter plot for each group
sns.scatterplot(data=data, x='x', y='y', hue='category', ax=ax, palette='Set1')
ax.set_title(f'Group {group}')

# Adjust spacing between subplots
plt.tight_layout()

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

