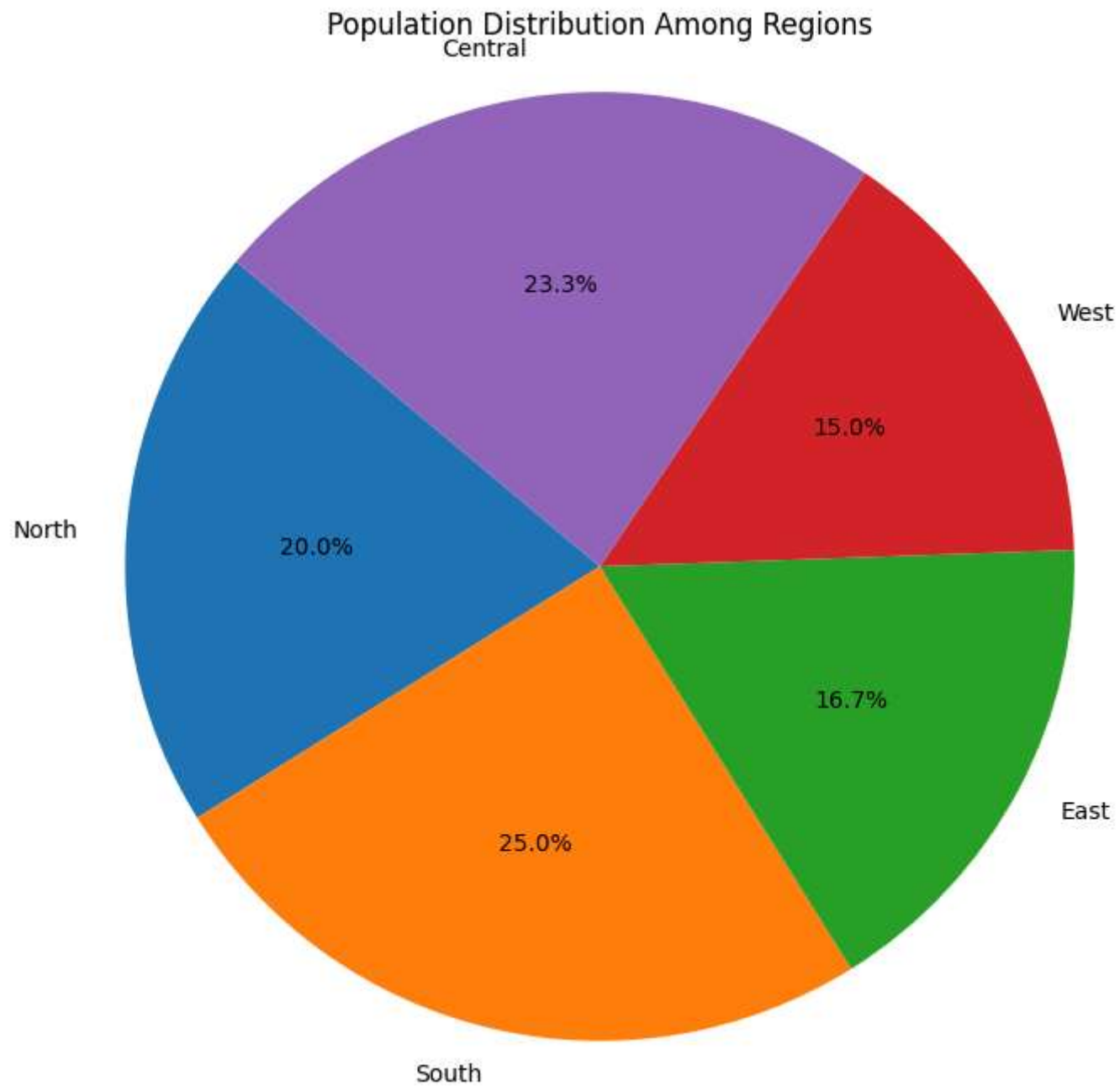
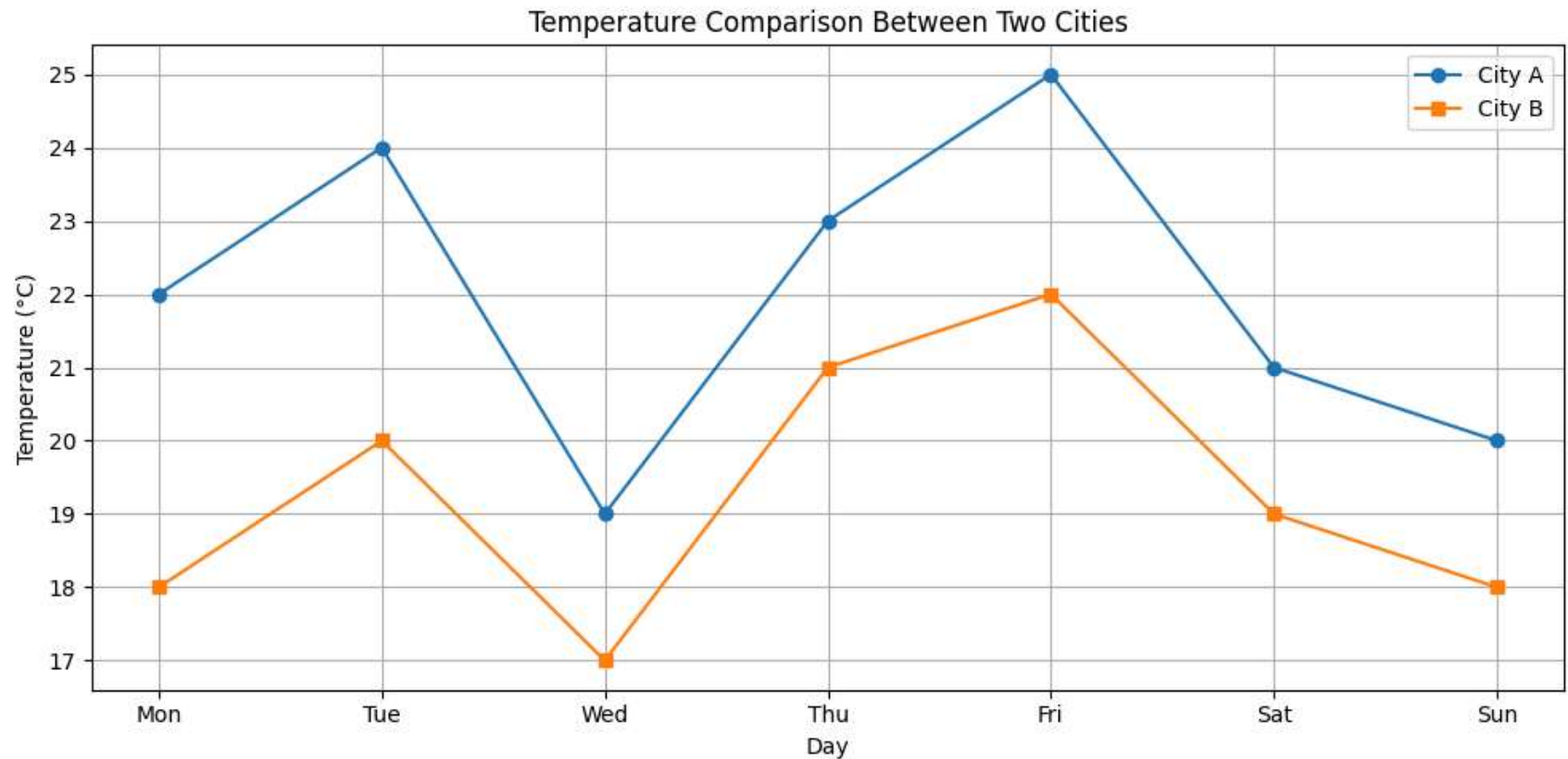


```
In [10]: #1.show population distribution among region using pie chart
import matplotlib.pyplot as plt
regions = ['North', 'South', 'East', 'West', 'Central']
populations = [120, 150, 100, 90, 140]
plt.figure(figsize=(8, 8))
plt.pie(populations, labels=regions, autopct='%1.1f%%', startangle=140)
plt.title('Population Distribution Among Regions')
plt.axis('equal')
plt.show()
```



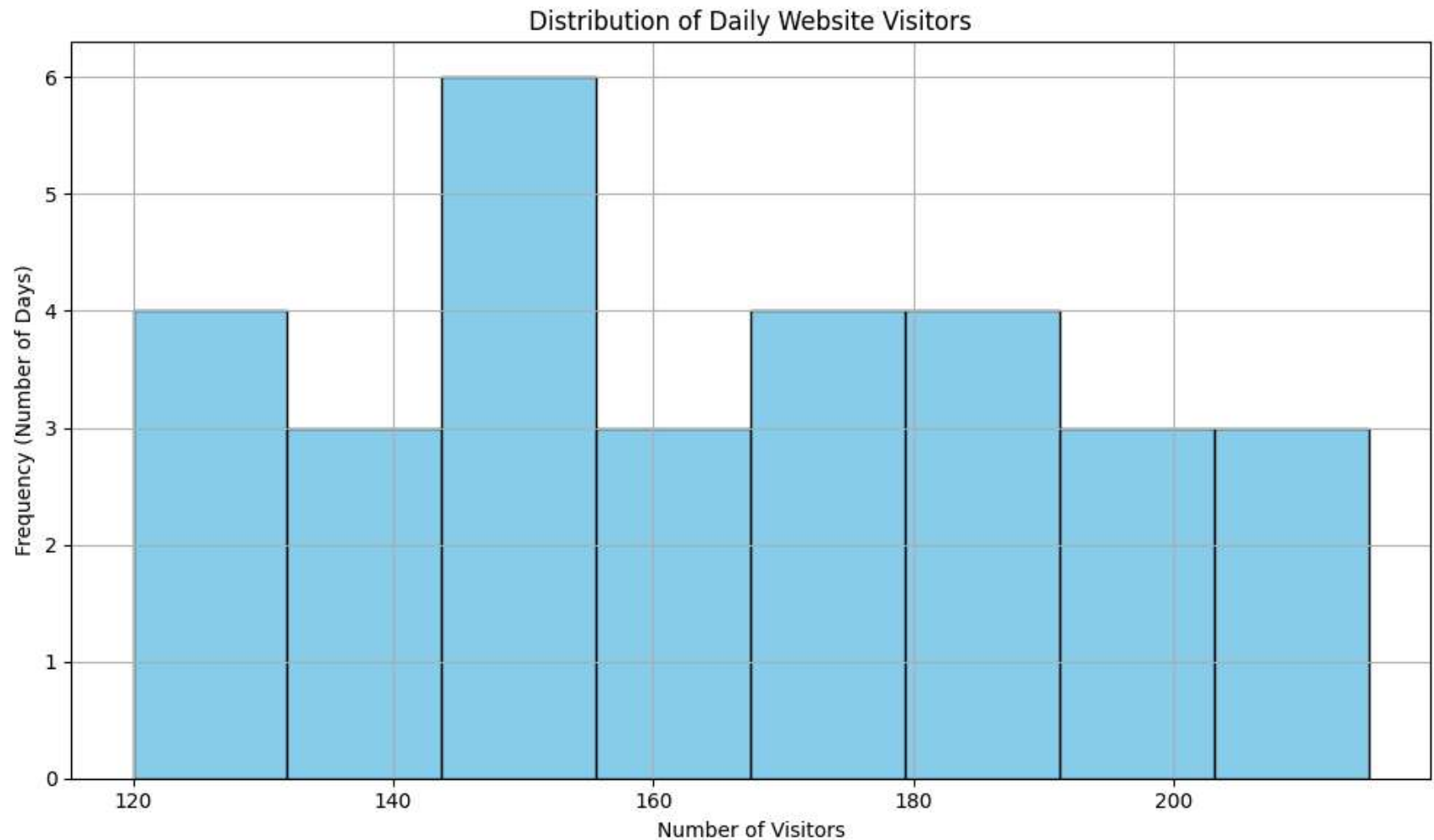
```
In [12]: #2.compare temperature between 2 cities using line chart  
import matplotlib.pyplot as plt
```

```
days = ['Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat', 'Sun']
city1_temps = [22, 24, 19, 23, 25, 21, 20]
city2_temps = [18, 20, 17, 21, 22, 19, 18]
plt.figure(figsize=(10, 5))
plt.plot(days, city1_temps, marker='o', label='City A')
plt.plot(days, city2_temps, marker='s', label='City B')
plt.title('Temperature Comparison Between Two Cities')
plt.xlabel('Day')
plt.ylabel('Temperature (°C)')
plt.legend()
plt.grid(True)
plt.tight_layout()
plt.show()
```

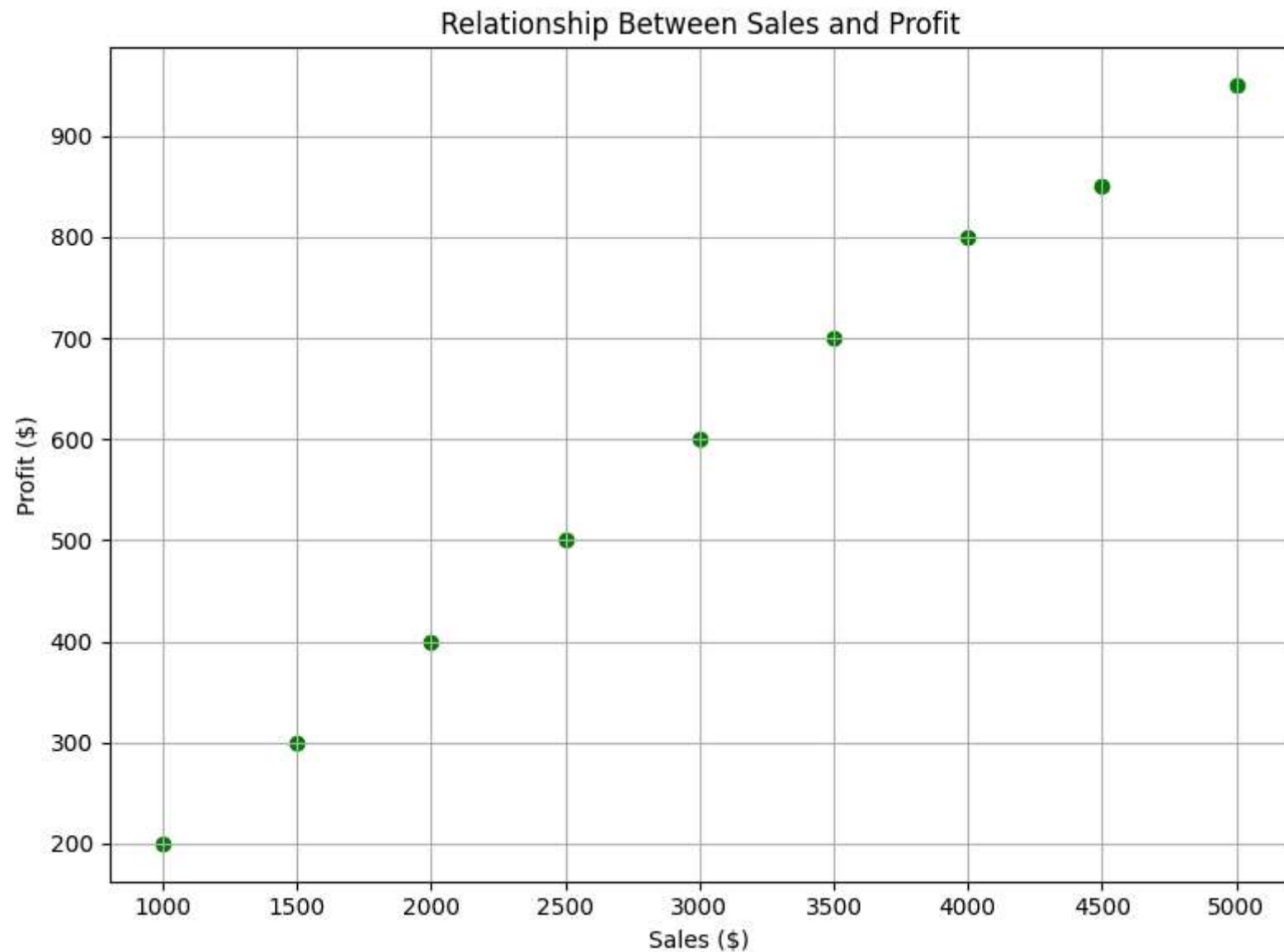


```
In [14]: #3.distribution of daily website visitors using histogram
import matplotlib.pyplot as plt
```

```
daily_visitors = [120, 135, 150, 170, 145, 130, 160, 155, 180, 175,  
                  190, 200, 210, 195, 185, 170, 160, 150, 140, 130,  
                  125, 135, 145, 155, 165, 175, 185, 195, 205, 215]  
plt.figure(figsize=(10, 6))  
plt.hist(daily_visitors, bins=8, color='skyblue', edgecolor='black')  
plt.title('Distribution of Daily Website Visitors')  
plt.xlabel('Number of Visitors')  
plt.ylabel('Frequency (Number of Days)')  
plt.grid(True)  
plt.tight_layout()  
plt.show()
```

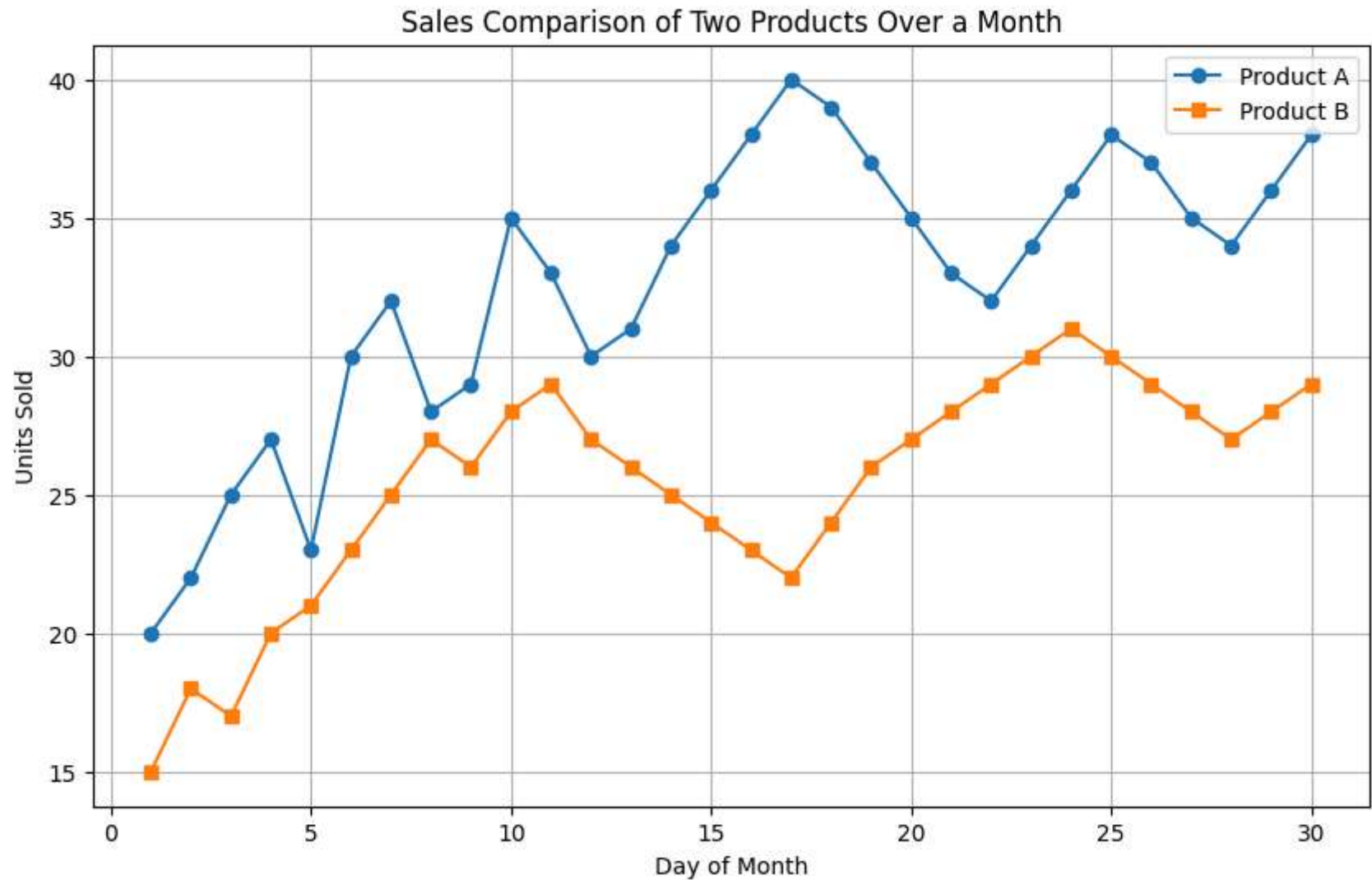


```
In [16]: #4.make relation between sales and profit using scatter plot(use grid)  
import matplotlib.pyplot as plt  
sales = [1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000]  
profit = [200, 300, 400, 500, 600, 700, 800, 850, 950]  
plt.figure(figsize=(8, 6))  
plt.scatter(sales, profit, color='green', marker='o')  
plt.title('Relationship Between Sales and Profit')  
plt.xlabel('Sales ($)')  
plt.ylabel('Profit ($)')  
plt.grid(True) # Show grid  
plt.tight_layout()  
plt.show()
```



```
In [20]: #5.sales comparison of 2 products over a month
import matplotlib.pyplot as plt
days = list(range(1, 31)) # Days of the month
product_A_sales = [20, 22, 25, 27, 23, 30, 32, 28, 29, 35, 33, 30, 31, 34, 36,
                   38, 40, 39, 37, 35, 33, 32, 34, 36, 38, 37, 35, 34, 36, 38]
product_B_sales = [15, 18, 17, 20, 21, 23, 25, 27, 26, 28, 29, 27, 26, 25, 24,
```

```
23, 22, 24, 26, 27, 28, 29, 30, 31, 30, 29, 28, 27, 28, 29]
plt.figure(figsize=(10, 6))
plt.plot(days, product_A_sales, label='Product A', marker='o')
plt.plot(days, product_B_sales, label='Product B', marker='s')
plt.title('Sales Comparison of Two Products Over a Month')
plt.xlabel('Day of Month')
plt.ylabel('Units Sold')
plt.legend()
plt.grid(True)
```



In [ ]: