Matplotlib Workshop

In [5]:
```
import pandas as pd
```

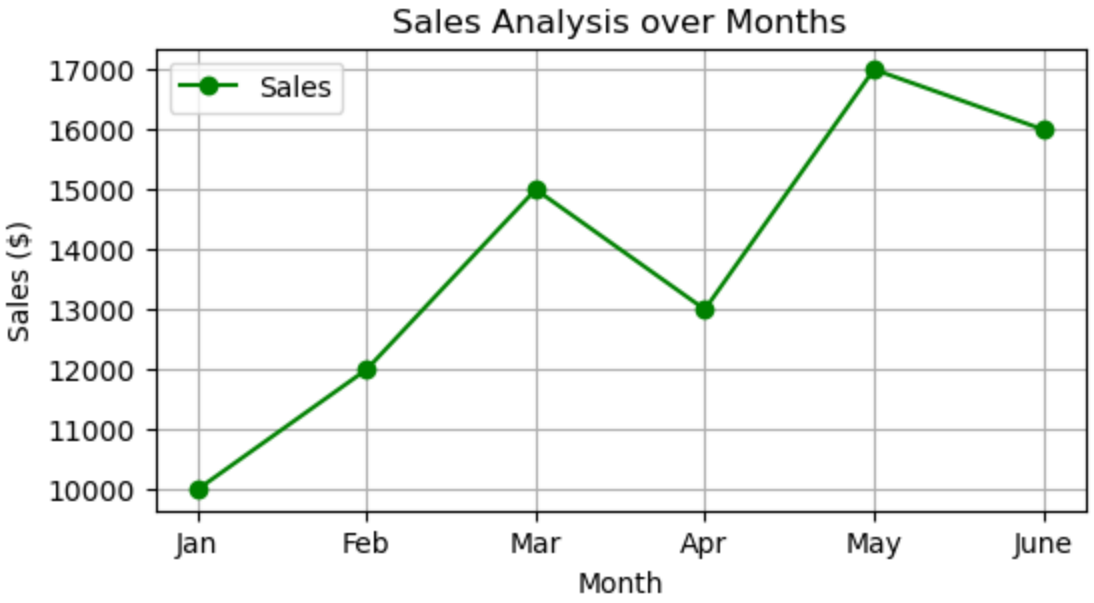
In [2]:
```
data = {
        "Month": ["Jan", "Feb", "Mar", "Apr", "May", "June"],
        "Sales": [10000, 12000, 15000, 13000, 17000, 16000],
        "Profit": [2000, 3000, 4000, 2500, 3500, 3000]
}
```

In [3]:
```
df = pd.DataFrame(data)
```

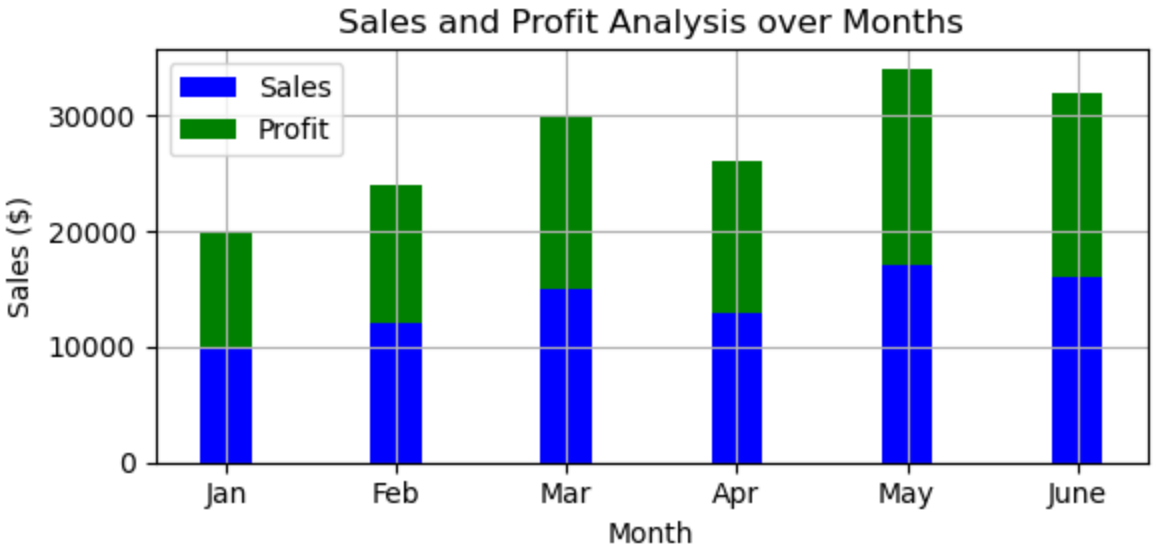
In [4]:
```
print(df)
```

```
  Month  Sales  Profit
0   Jan  10000    2000
1   Feb  12000    3000
2   Mar  15000    4000
3   Apr  13000    2500
4   May  17000    3500
5  June  16000    3000
```

In [6]:
```
# 1. Line Plot of Monthly Sales

import matplotlib.pyplot as plt
plt.figure(figsize=(6,3))
plt.plot(df['Month'],df['Sales'],label='Sales', color='g',marker='o',linestyle='-')
plt.title('Sales Analysis over Months')
plt.xlabel('Month')
plt.ylabel('Sales ($)')
plt.legend()
plt.grid(True)
plt.show()
```

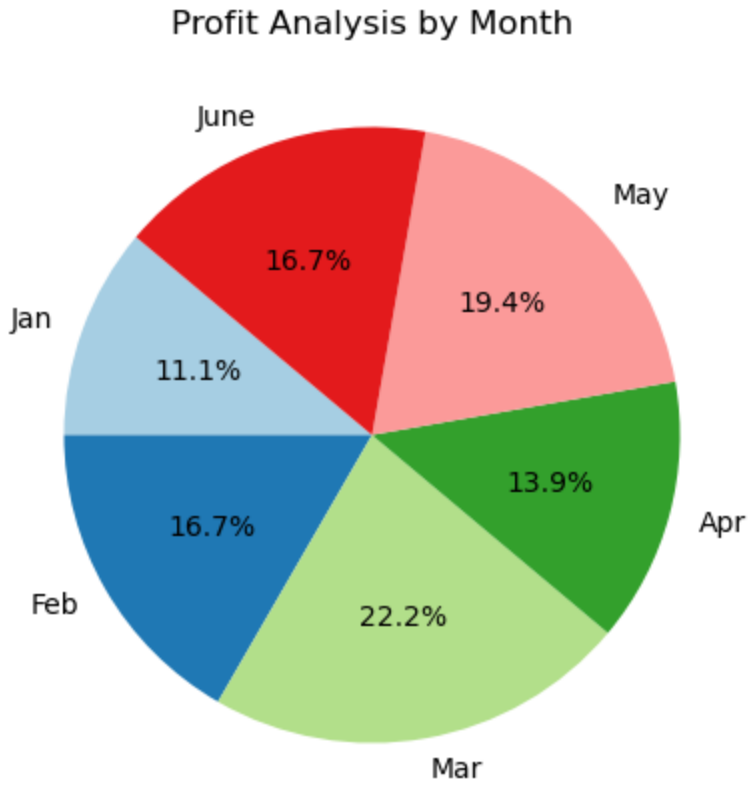


In [7]:
```
# 2. Bar Plot Months vs Profit

import matplotlib.pyplot as plt
plt.figure(figsize=(6,3))
width=0.3
plt.bar(df['Month'],df['Sales'],label='Sales', color='b',width=width)
plt.bar(df['Month'],df['Sales'],label='Profit', color='g',width=width, bottom=df['S
plt.title('Sales and Profit Analysis over Months')
plt.xlabel('Month')
plt.ylabel('Sales ($)')
plt.legend()
plt.grid(True)
plt.tight_layout()
plt.show()
```

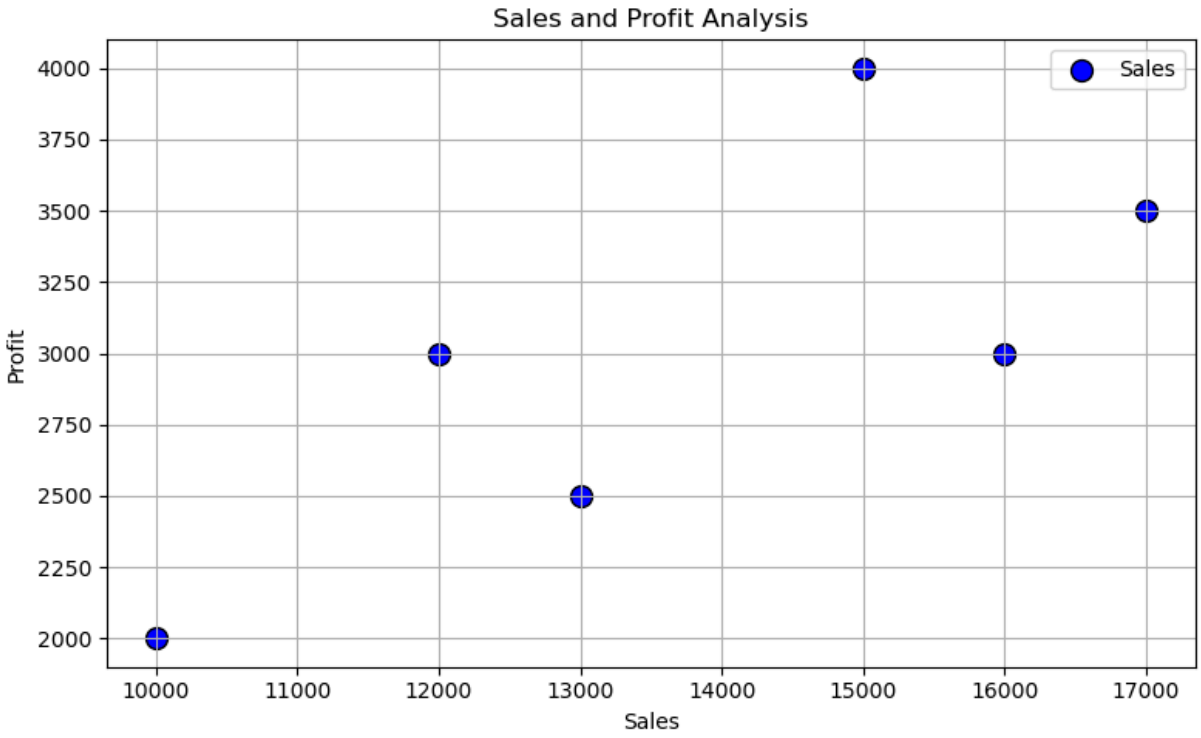


In [9]:
```
# 3. Pie Chart Profit Vs Month

from enum import auto
```

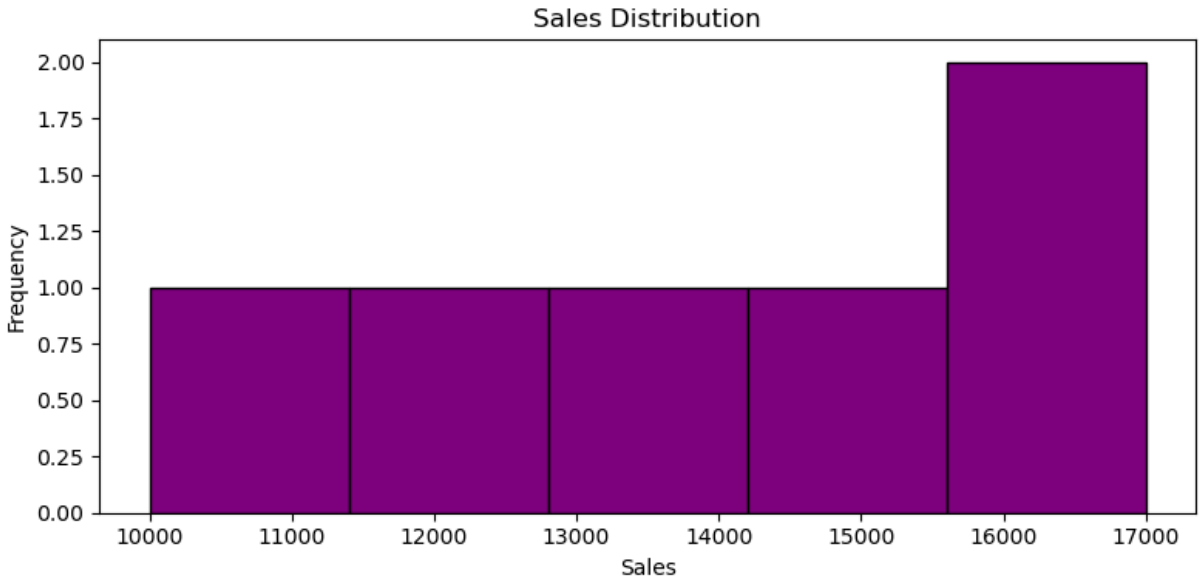
```
plt.figure(figsize=(8,5))
plt.pie(df['Profit'], labels=df['Month'], autopct='%1.1f%%', startangle=140,colors=
plt.title("Profit Analysis by Month")
plt.show()
```



In [10]:
```
# 4. Scatter Plot

plt.figure(figsize=(8,5))
plt.scatter(df['Sales'],df['Profit'], label='Sales', color='b',s=100,edgecolors='bl
plt.title("Sales and Profit Analysis")
plt.xlabel('Sales')
plt.ylabel('Profit')
plt.legend()
plt.grid()
plt.tight_layout()
plt.show()
```

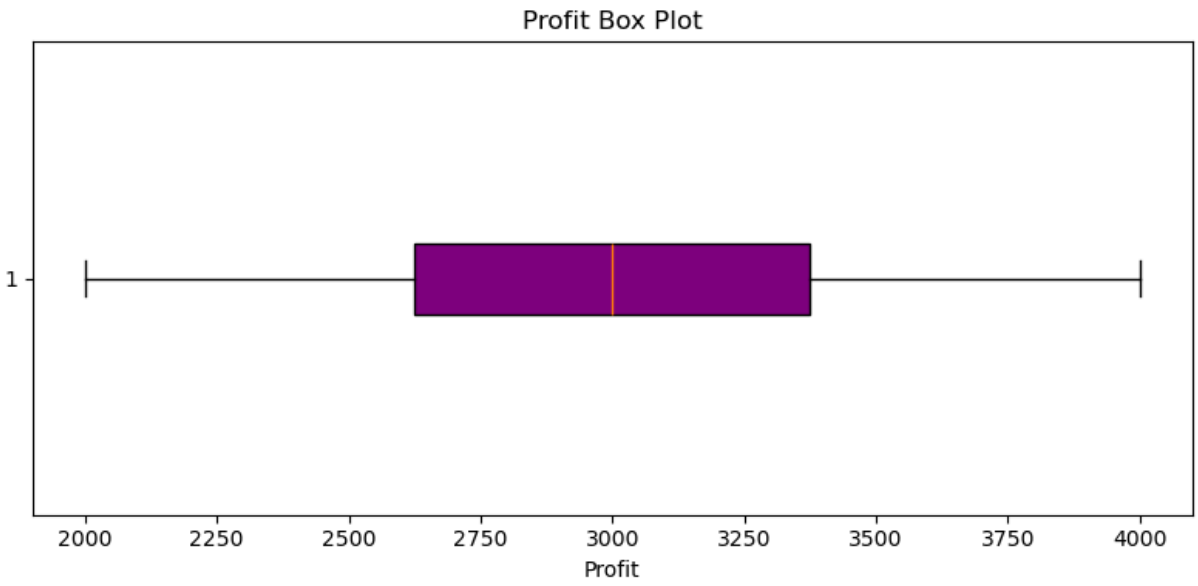


In [13]:
```
# 5. Histogram

plt.figure(figsize=(8,4))
plt.hist(df['Sales'],bins=5,color='purple',edgecolor='black')
plt.title("Sales Distribution")
plt.xlabel('Sales')
plt.ylabel('Frequency')
plt.tight_layout()
plt.show()
```



In [15]:
```
# 6. Box Plot

plt.figure(figsize=(8,4))
plt.boxplot(df['Profit'],vert=False, patch_artist=True, boxprops=dict(facecolor='pu
```

```
plt.title('Profit Box Plot')
plt.xlabel('Profit')
plt.tight_layout()
plt.show()
```



In [ ]: