In [1]:
```
import pandas as pd

data = {
    "Month" : ['Jan', 'Feb', 'Mar', 'Apr', 'May' , 'Jun'],
    "Sales" : [10000, 12000, 15000, 13000, 17000, 16000],
    "Profit" : [2000, 3000, 4000,5000, 2500, 2000]
}

df = pd.DataFrame(data)
print(df)
```

```
  Month  Sales  Profit
0   Jan  10000    2000
1   Feb  12000    3000
2   Mar  15000    4000
3   Apr  13000    5000
4   May  17000    2500
5   Jun  16000    2000
```

1. LINE PLOT MONTHLY SALES

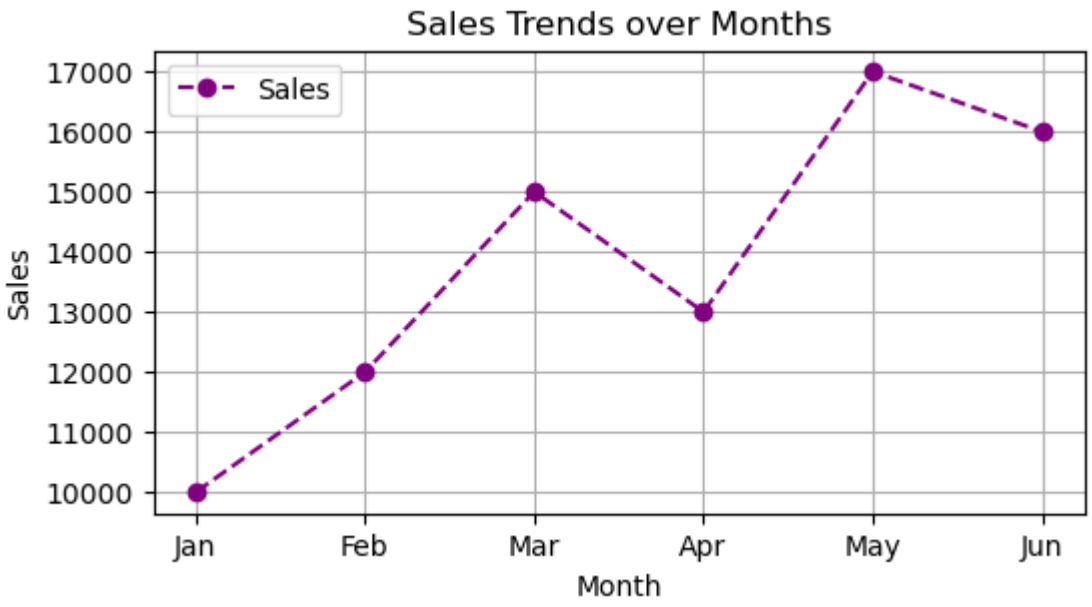
In [2]:
```
df[['Month','Sales']]
```

Out[2]:

	Month	Sales
0	Jan	10000
1	Feb	12000
2	Mar	15000
3	Apr	13000
4	May	17000
5	Jun	16000

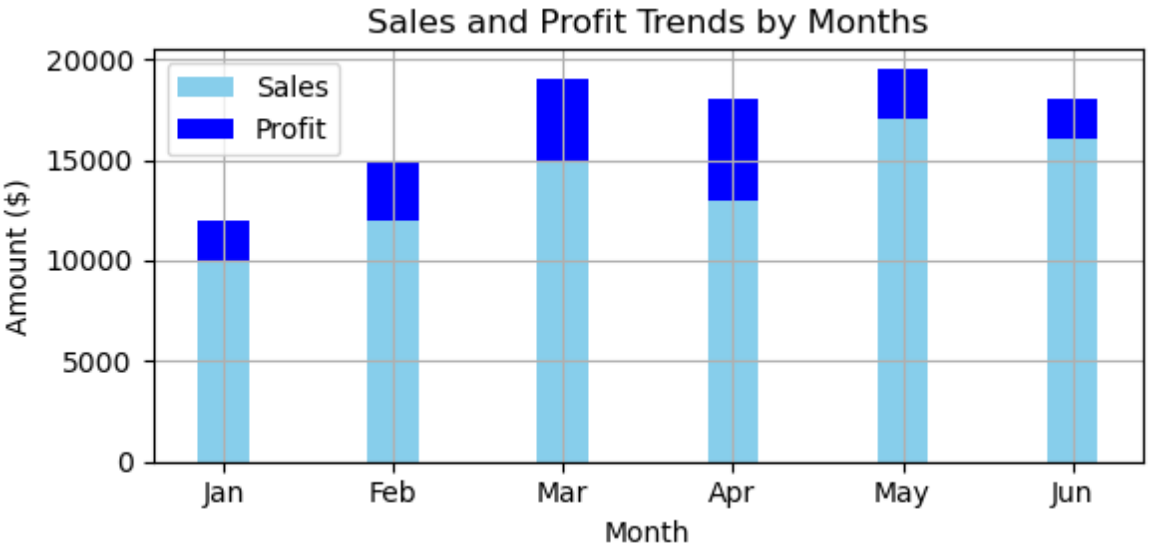
In [3]:
```
import matplotlib.pyplot as plt

plt.figure(figsize=(6, 3))
plt.plot(df['Month'], df['Sales'],  color='purple', marker = 'o', linestyle='--'
plt.title('Sales Trends over Months')
plt.xlabel('Month')
plt.ylabel('Sales')
plt.grid(True)
plt.legend()
plt.show()
```



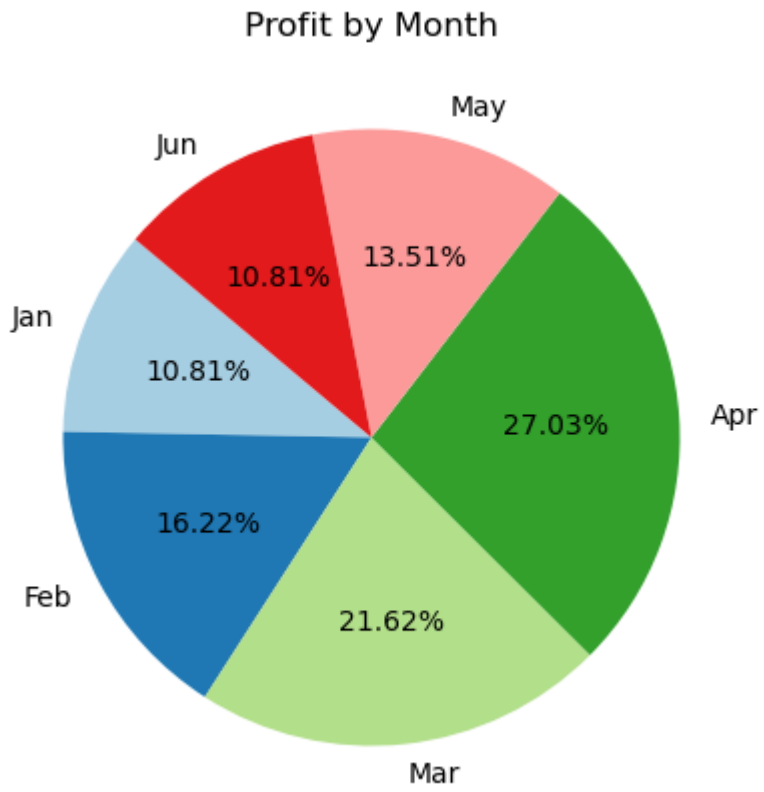
2. BAR PLOT BETWEEN MONTH VS PROFIT

In [4]:
```
plt.figure(figsize=(6,3))
width = 0.3
plt.bar(df['Month'], df['Sales'], width=width, color='skyblue', label='Sales')
plt.bar(df['Month'], df['Profit'], width=width,  color='blue', label='Profit', b
plt.title('Sales and Profit Trends by Months')
plt.xlabel('Month')
plt.ylabel('Amount ($)')
plt.grid(True)
plt.legend()
plt.tight_layout()
plt.show()
```



3. PIE CHART PROFIT VS MONTH

In [5]:
```
from enum import auto
plt.figure(figsize=(9,5))
plt.pie(df['Profit'],labels=df['Month'], autopct='%1.2f%%',startangle=140, color
plt.title('Profit by Month')
plt.show()
```

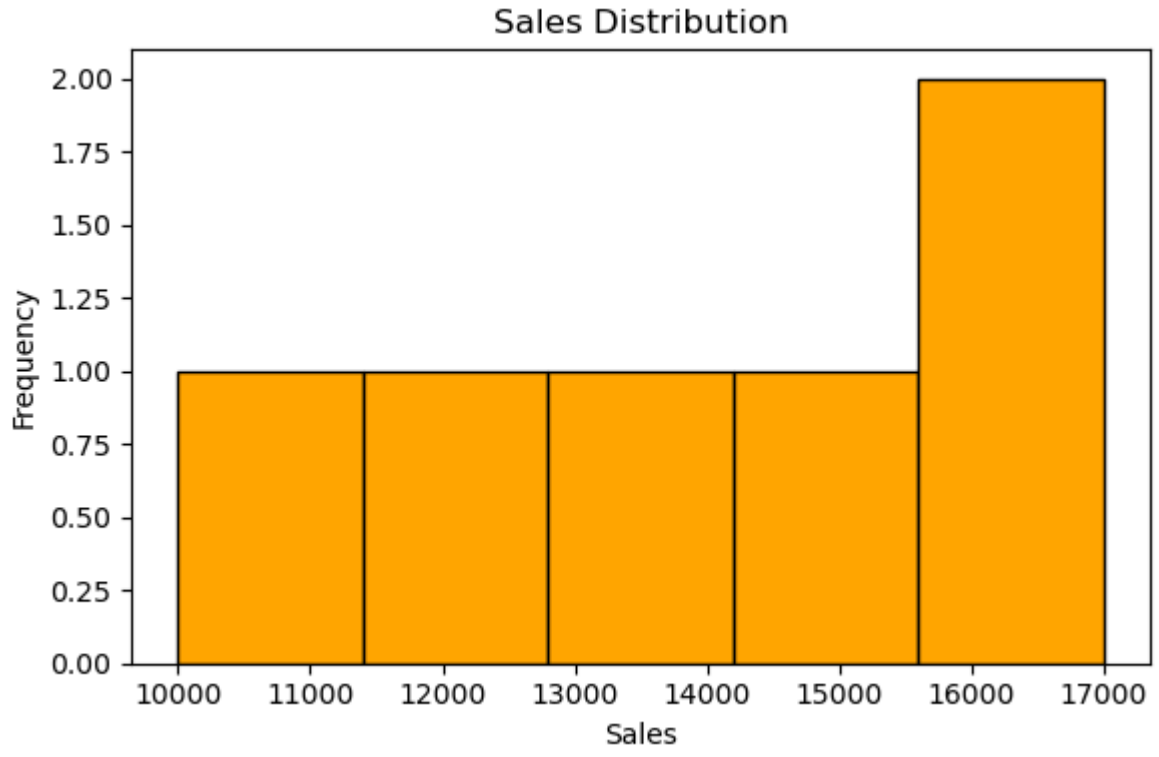


4. SCATTER PLOT

In [6]:
```
plt.figure(figsize=(8,5))
plt.scatter(df['Sales'], df['Profit'],color='green', s=100, edgecolors ='black')
plt.title('Sales vs Profit Scatter Plot')
plt.xlabel('Sales')
plt.ylabel('Profit')
plt.grid(True)
plt.tight_layout()
plt.show()
```

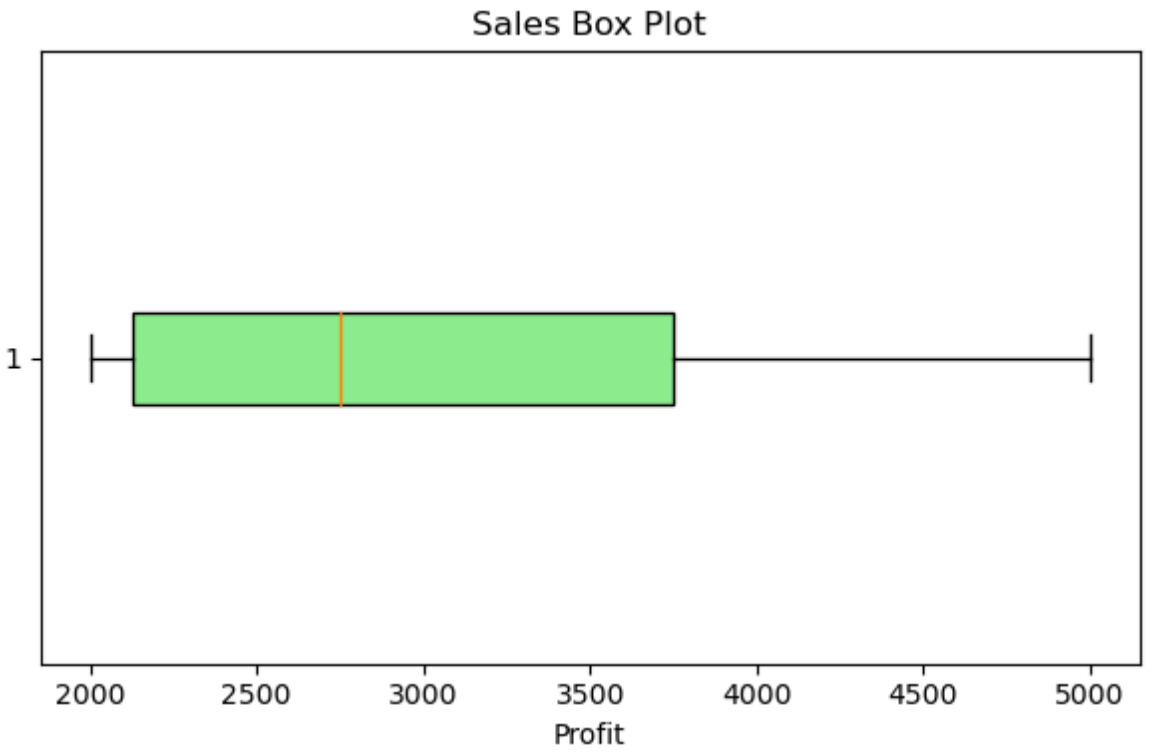
5. Histogram

In [7]:
```
plt.figure(figsize=(6,4))
plt.hist(df['Sales'], bins=5, color='orange', edgecolor='black'),
plt.title('Sales Distribution')
plt.xlabel('Sales')
plt.ylabel('Frequency')
plt.tight_layout()
plt.show()
```



6. Box plot

In [8]:
```
plt.figure(figsize=(6,4)),
plt.boxplot(df['Profit'], vert=False , patch_artist=True, boxprops=dict(facecolo
plt.title('Sales Box Plot')
plt.xlabel('Profit')
plt.tight_layout()
plt.show()
```



In [9]:
```
import gradio as gr
import pandas as pd
import matplotlib.pyplot as plt

data = {
    "Month" : ['Jan', 'Feb', 'Mar', 'Apr', 'May' , 'Jun'],
    "Sales" : [10000, 12000, 15000, 13000, 17000, 16000],
    "Profit" : [2000, 3000, 4000,5000, 2500, 2000]
}

df = pd.DataFrame(data)

# Function to return selected plot
def generate_plot(plot_type):
    fig = plt.figure(figsize=(8, 5))

    if plot_type == 'Line Plot':
        plt.plot(df['Month'], df['Sales'],  color='purple', marker = 'o', linest
        plt.title('Sales Trends over Months')
        plt.xlabel('Month')
        plt.ylabel('Sales ($)')
        plt.grid(True)
        plt.legend()

    elif plot_type == 'Stacked Bar Chart':
```

```
        fig.set_size_inches(10, 6)
        width = 0.3
        plt.bar(df['Month'], df['Sales'], width=width, color='skyblue', label='S
        plt.bar(df['Month'], df['Profit'], width=width,  color='blue', label='Pr
        plt.title('Sales and Profit Trends by Months')
        plt.xlabel('Month')
        plt.ylabel('Amount ($)')
        plt.legend()

    elif plot_type == 'Pie Chart':
        fig.set_size_inches(7,7)
        plt.pie(df['Profit'],labels=df['Month'], autopct='%1.2f%%',startangle=14
        plt.title('Profit by Month')

    elif plot_type == 'Scatter Plot':
        plt.scatter(df['Sales'], df['Profit'],color='green',s=100, edgecolors ='
        plt.title('Sales vs Profit Scatter Plot')
        plt.xlabel('Sales($)')
        plt.ylabel('Profit($)')
        plt.grid(True)

    elif plot_type == 'Histogram':
        plt.hist(df['Sales'], bins=5, color='orange', edgecolor='black'),
        plt.title('Sales Distribution')
        plt.xlabel('Sales($)')
        plt.ylabel('Frequency')

    elif plot_type == "Box Plot":
        plt.boxplot(df['Profit'], vert=False , patch_artist=True, boxprops=dict(
        plt.title('Profit Distribution')
        plt.xlabel('Profit ($)')

    plt.tight_layout()
    return fig


# Gradio UI

demo = gr.Interface(
    fn=generate_plot,
    inputs=gr.Radio(
    ['Line Plot', 'Stacked Bar Chart' ,'Pie Chart', 'Scatter Plot', 'Histogram'
    label ="Choose the plot type"
    ),
    outputs = gr.Plot(label ="Visualisation"),
    title = 'Sales & Profit Visual Insight',
    description = "Choose the type to visualize ths data"
)

demo.launch()
```

```
* Running on local URL:  http://127.0.0.1:7861
* To create a public link, set `share=True` in `launch()`.
```