```
import pandas as pd

data = {
    "Month": ['Jan','Feb','Mar','Apr','May','Jun'],
    "Sales": [10000, 12000, 15000, 13000, 17000, 16000],
    "Profit": [2000, 3000, 4000, 2500, 3500, 3000]




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

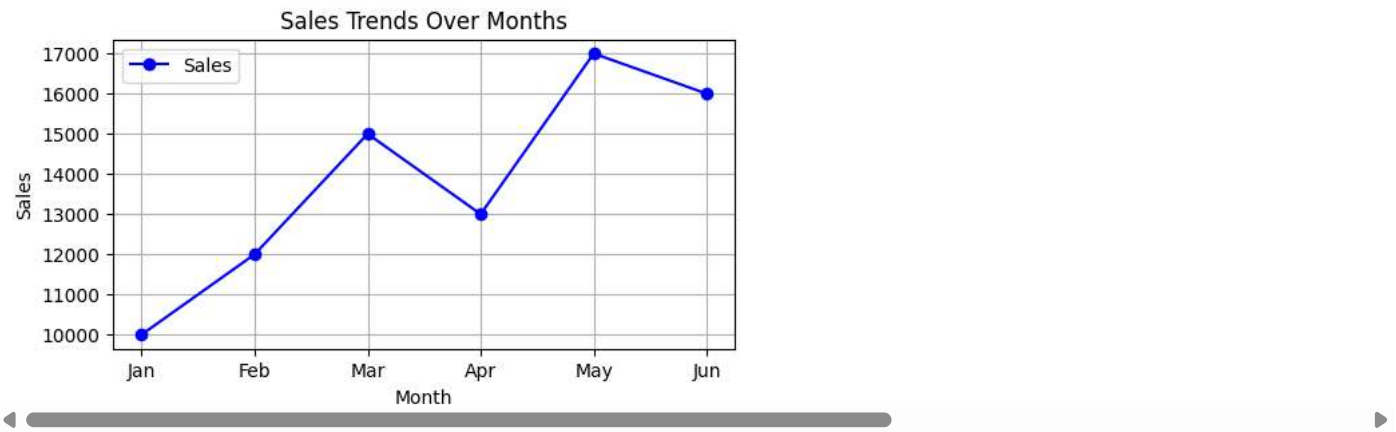
```
  Month  Sales  Profit
0   Jan  10000    2000
1   Feb  12000    3000
2   Mar  15000    4000
3   Apr  13000    2500
4   May  17000    3500
5   Jun  16000    3000
```

```
df[['Month','Sales']]
```

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

```
#1 LINE PLOT MONTHLY SALES
```

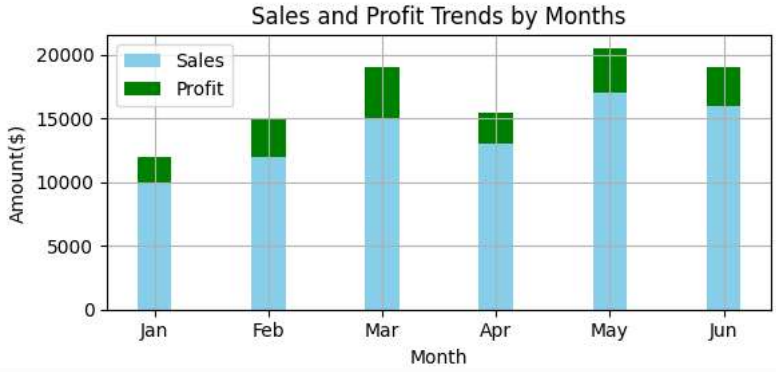
```
import matplotlib.pyplot as plt
plt.figure(figsize=(6,3))
plt.plot(df['Month'],df['Sales'],color = 'Blue',marker = 'o',linestyle = '-',label = 'Sales')
plt.title('Sales Trends Over Months')
plt.xlabel('Month')
plt.ylabel('Sales')
plt.grid(True)
plt.legend()
plt.show()
```




```
# Barplot Month Vs Profit
```

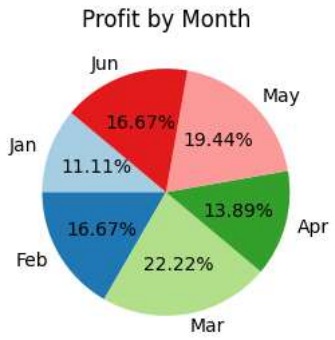
```
plt.figure(figsize=(6,3))
width = 0.3
plt.bar(df['Month'],df['Sales'],width=width, color = 'skyblue',label = 'Sales')
```

```
plt.bar(df['Month'],df['Profit'],width=width, color = 'green',label = 'Profit',bottom =df['Sales'])
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 Cart Profit Vs Month


from __future__ import absolute_import
from enum import auto
plt.figure(figsize=(6,3))
plt.pie(df['Profit'], labels = df['Month'], autopct = '%1.2f%%',startangle = 140,colors = plt.cm.Paired.colors)
plt.title('Profit by Month')
plt.show()
```



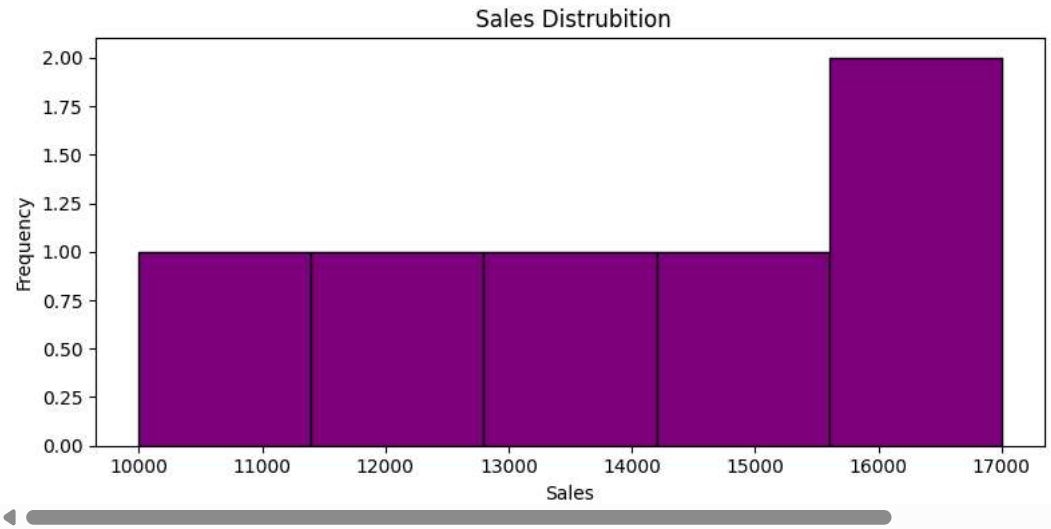

```
#4- Scatter Plot


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.legend()
plt.tight_layout()
plt.show()
```

```
/tmp/ipython-input-40-2795669570.py:7: UserWarning: No artists with labels found to put in legend.  Note that artists whose label start
  plt.legend()
```

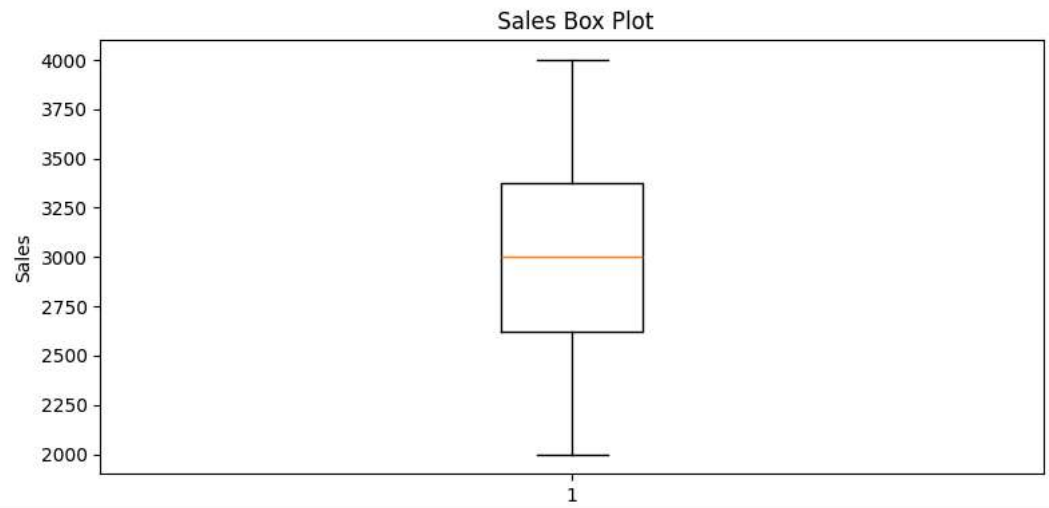

```
# Histogram


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

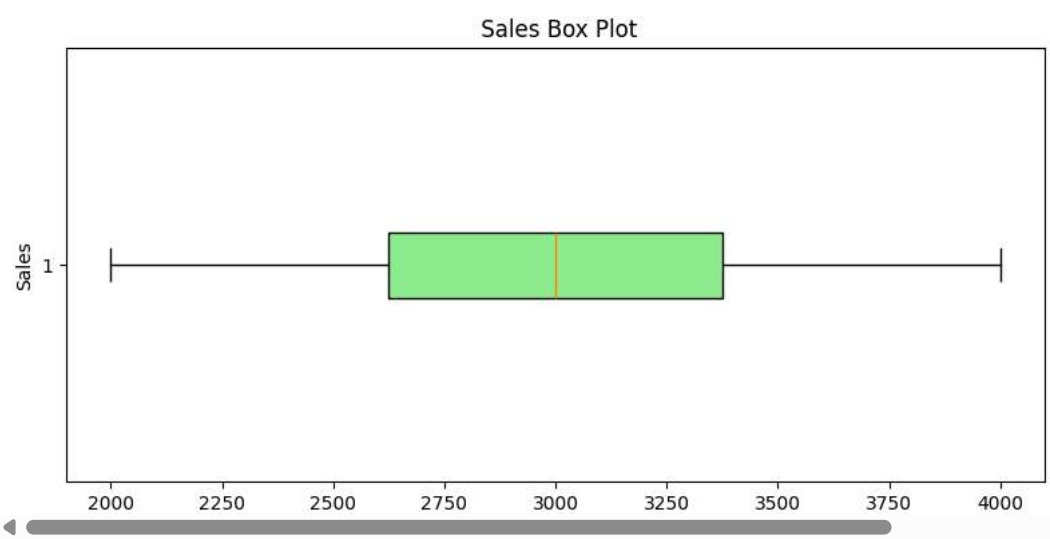


Box Plot

```
plt.figure(figsize=(8,4))
plt.boxplot(df['Profit'])
plt.title(' Sales Box Plot')
plt.ylabel('Sales')
plt.tight_layout()
plt.show()
```




```
plt.figure(figsize=(8,4))
plt.boxplot(df['Profit'],vert = False, patch_artist=True, boxprops=dict(facecolor = 'lightgreen'))
plt.title(' Sales Box Plot')
plt.ylabel('Sales')
plt.tight_layout()
plt.show()
```




```
#!pip install gradio



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, 2500, 3500, 3000]
}
df= pd.DataFrame(data)

def generate_plot(plot_type):
  fig = plt.figure(figsize=(8,5))

  if plot_type ==  'Line Plot':
   plt.plot(df['Month'],df['Sales'],color = 'Blue',marker = 'o',label = 'Sales')
   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 = 'Sales')
   plt.bar(df['Month'],df['Profit'],width=width, color = 'green',label = 'Profit',bottom =df['Sales'])
   plt.title('Sales and Profit Comparison by Months')
   plt.xlabel('Month')
   plt.ylabel('Amount($)')
   plt.legend()



  elif plot_type == 'piechart':
   fig.set_size_inches(7,7)
   plt.pie(df['Profit'], labels = df['Month'], autopct = '%1.2f%%',startangle = 140,colors = plt.cm.Paired.colors)
   plt.title('Profit by Month')


  elif plot_type == 'scatter plot':
   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)

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


  elif plot_type == 'box plot':
   plt.boxplot(df['Profit'],vert = False, patch_artist=True, boxprops=dict(facecolor = 'lightgreen'))
   plt.title(' Sales Box Plot')
   plt.ylabel('Sales')

   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", "Box Plot"],
        label="Choose Plot Type"
    ),
    outputs=gr.Plot(label="Visualization"),
    title="Sales & Profit Visual Explorer",
    description="Choose a chart type to visualize the data."
)

demo.launch()
```

```
It looks like you are running Gradio on a hosted a Jupyter notebook. For the Gradio app to work, sharing must be enabled. Automatically

Colab notebook detected. To show errors in colab notebook, set debug=True in launch()
* Running on public URL: https://ed92a9ae53d972eff6.gradio.live

This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio deploy` from the terminal in the working dir
```