

```
from google.colab import drive
drive.mount('/content/drive')
```

↗ Drive already mounted at /content/drive; to attempt to forcibly remount, call `drive.mount("/content/drive", force_remount=True)`.

```
import matplotlib.pyplot as plt
```

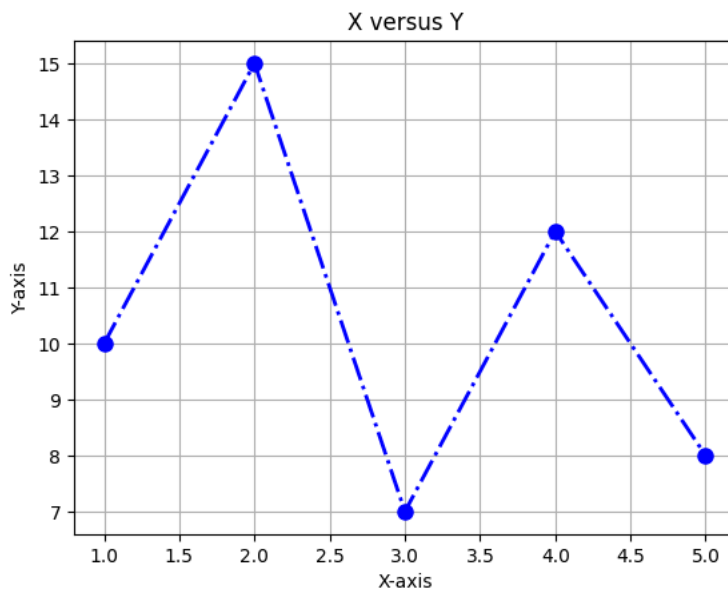
```
x = [1,2,3,4,5]
y= [10,15,7,12,8]
```

```
# create a line plot
```

```
plt.plot(x,y, marker = 'o', markersize = 8,color = 'blue', linestyle='-.',linewidth='2')
```

```
# add labels and titles
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.title('X versus Y')
plt.grid(True)
```

```
plt.show()
```



```
import pandas as pd
import matplotlib.pyplot as plt
```

```
# create a DataFrame
```

```
data = {
    'Year': [2010,2011,2012,2013,2014],
    'Sales':[500,800,1700,1500,2000]
}
```

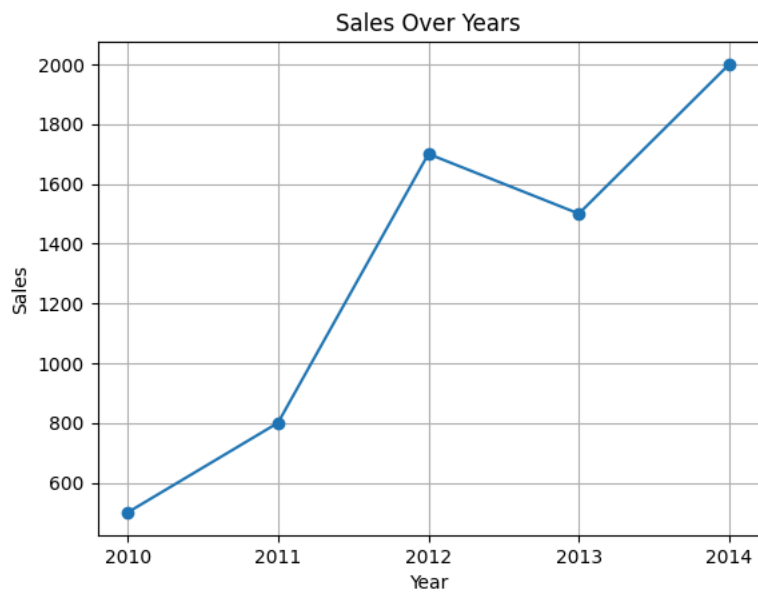
```
df = pd.DataFrame(data)
```

```
# create a line plot
```

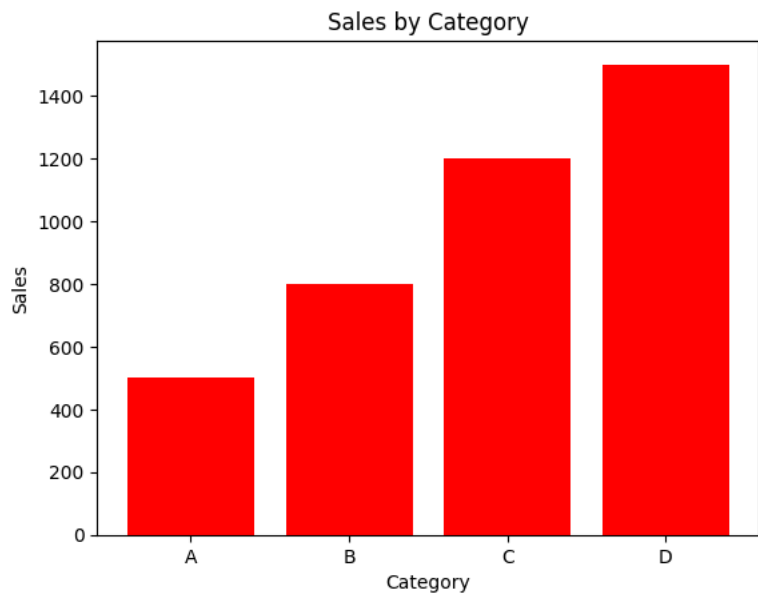
```
plt.plot(df['Year'], df['Sales'], marker='o')
plt.xlabel('Year')
plt.ylabel('Sales')
plt.title('Sales Over Years')
plt.grid(True)
```

```
# Set x-axis ticks at integer values
plt.xticks(df['Year'])
```

```
plt.show()
```



```
data = {  
    'Category': ['A', 'B', 'C', 'D'],  
    'Sales': [500, 800, 1200, 1500]  
}  
  
df = pd.DataFrame(data)  
  
# create a bar plot  
  
plt.bar(df['Category'], df['Sales'], color='red')  
plt.xlabel('Category')  
plt.ylabel('Sales')  
plt.title('Sales by Category')  
  
plt.show()
```



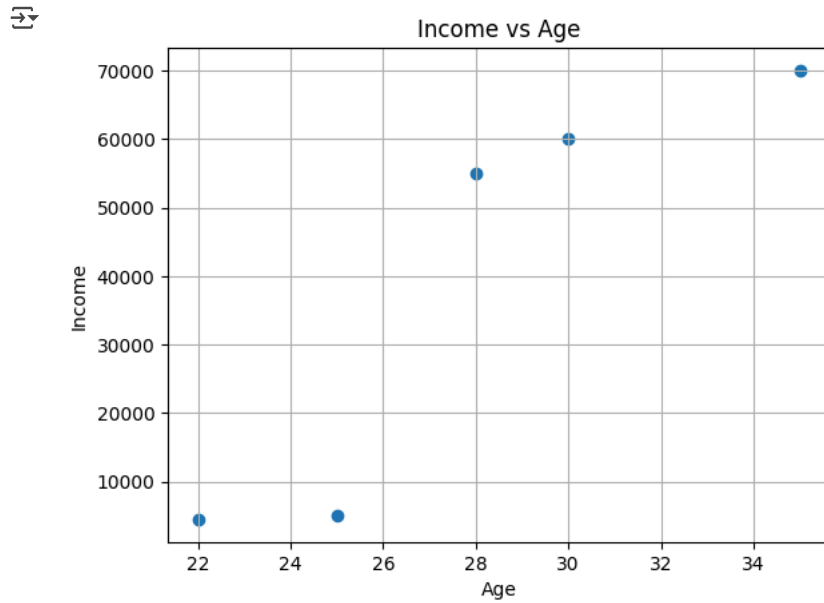
```
import pandas as pd  
import matplotlib.pyplot as plt  
  
# create a DataFrame  
data = {  
    'Age': [25, 30, 22, 35, 28],  
    'Income': [5000, 60000, 4500, 70000, 55000]  
}  
}
```

```
df = pd.DataFrame(data)

# create a scatter plot

plt.scatter(df['Age'],df['Income'])
plt.xlabel('Age')
plt.ylabel('Income')
plt.title('Income vs Age')
plt.grid(True)

plt.show()
```



```
# creating data frame

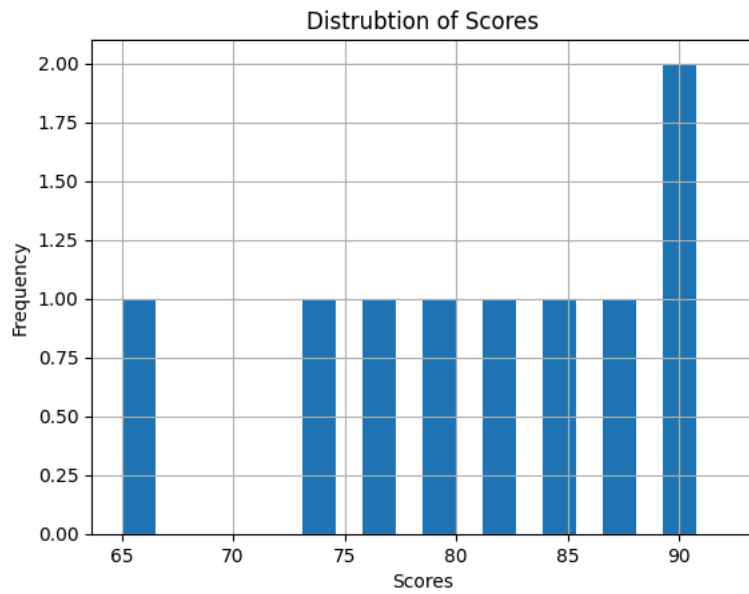
data = {
    'Scores': [85,78,92,65,80,75,88,90,82]
}

df = pd.DataFrame(data)

# create a histogram of the data

plt.hist(df['Scores'], width = 1.5)
plt.xlabel('Scores')
plt.ylabel('Frequency')
plt.title('Distrubtion of Scores')
plt.grid(True)

plt.show()
```

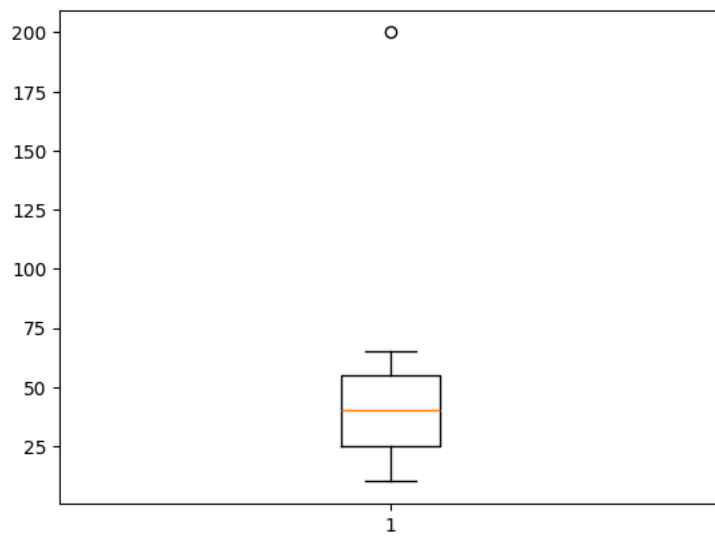


```
# Sample data
```

```
data = [10,15,20,25,30,35,40,45,50,55,60,65,70]
```

```
# Create a box plot
```

```
plt.boxplot(data)  
plt.show()
```



```
import seaborn as sns
```

```
# sample data  
data = sns.load_dataset('iris')
```

```
data.head()
```



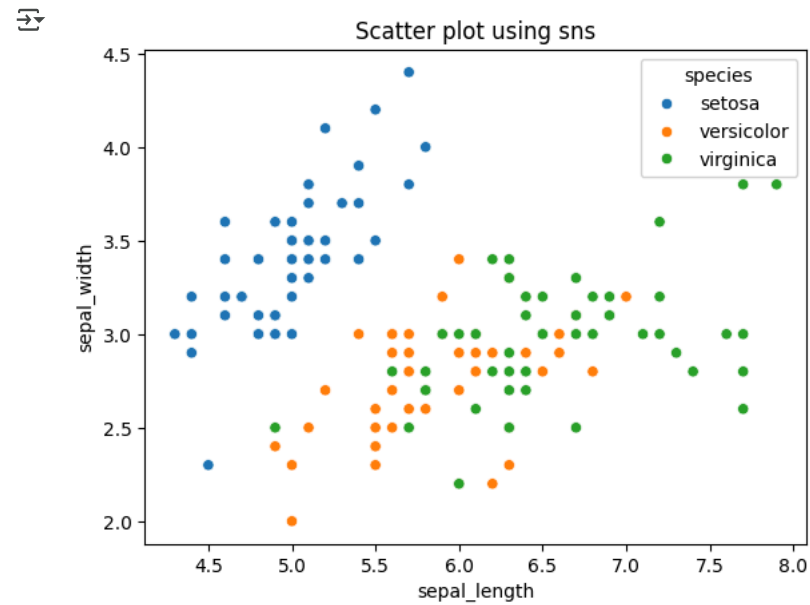
	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
data['species'].unique()
```

```
array(['setosa', 'versicolor', 'virginica'], dtype=object)
```

```
# create a scatter plot using sns
```

```
sns.scatterplot(data=data, x='sepal_length', y='sepal_width', hue='species')  
plt.title('Scatter plot using sns')  
plt.show()
```

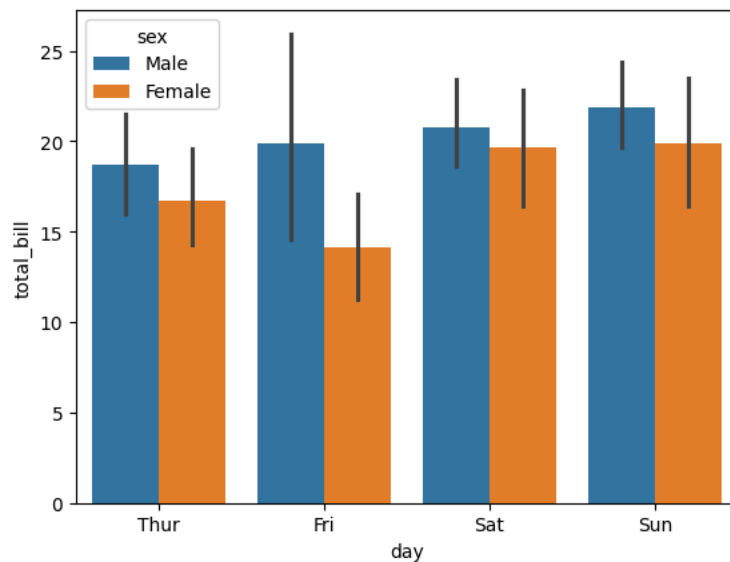


```
# sample data
```

```
data = sns.load_dataset('tips')
```

```
sns.barplot(data = data, x = 'day', y = 'total_bill', hue = 'sex')
```

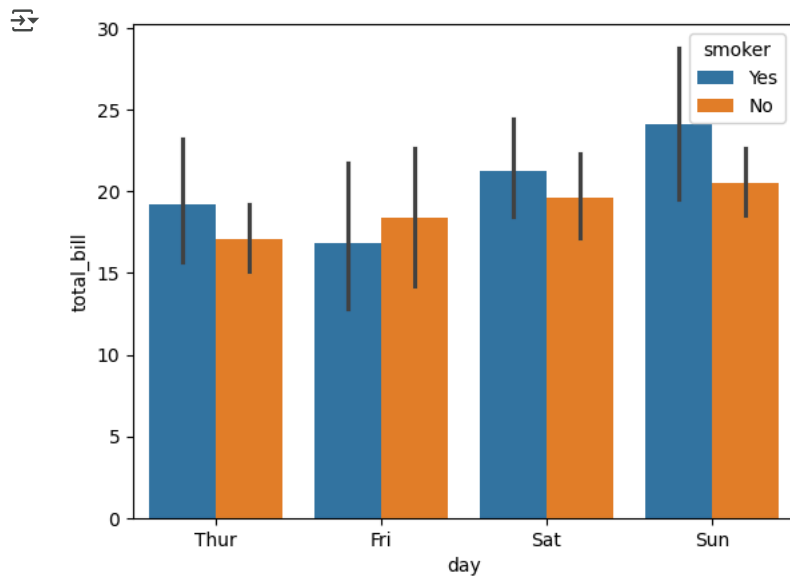
```
<Axes: xlabel='day', ylabel='total_bill'>
```



```
# sample data
```

```
data = sns.load_dataset('tips')
```

```
sns.barplot(data = data, x = 'day', y = 'total_bill', hue = 'smoker')  
plt.show()
```



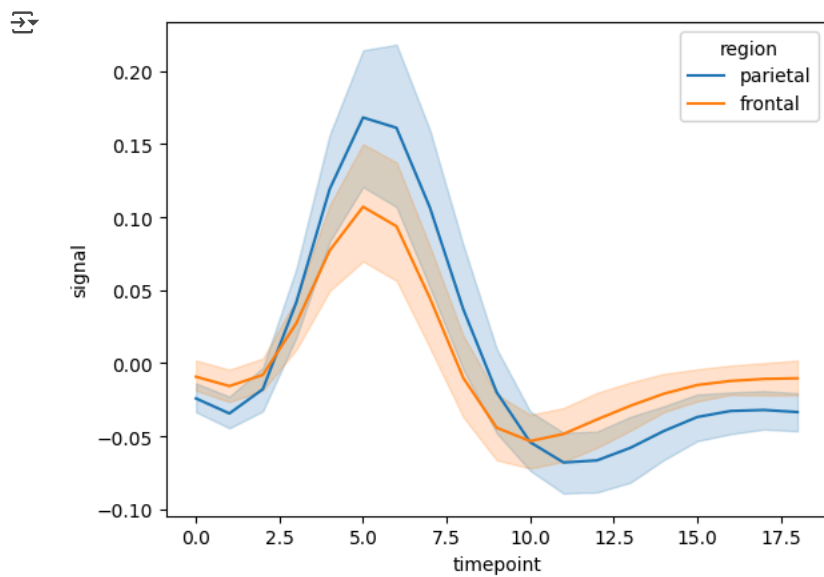
```
data.describe().T
```

	count	mean	std	min	25%	50%	75%	max
<b>total_bill</b>	244.0	19.785943	8.902412	3.07	13.3475	17.795	24.1275	50.81
<b>tip</b>	244.0	2.998279	1.383638	1.00	2.0000	2.900	3.5625	10.00
<b>size</b>	244.0	2.569672	0.951100	1.00	2.0000	2.000	3.0000	6.00

```
# sample data
data = sns.load_dataset('fmri')
data.head()
```

	subject	timepoint	event	region	signal
<b>0</b>	s13	18	stim	parietal	-0.017552
<b>1</b>	s5	14	stim	parietal	-0.080883
<b>2</b>	s12	18	stim	parietal	-0.081033
<b>3</b>	s11	18	stim	parietal	-0.046134
<b>4</b>	s10	18	stim	parietal	-0.037970

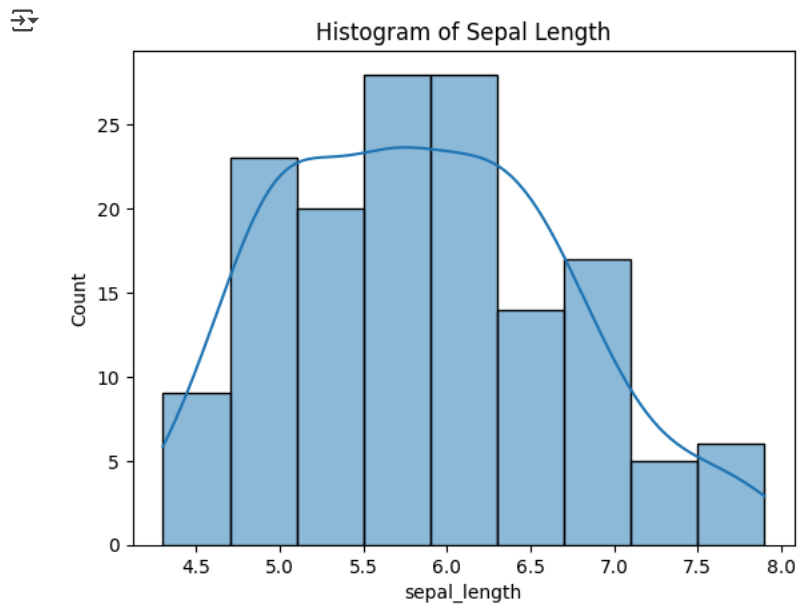
```
sns.lineplot(data = data, x = 'timepoint', y = 'signal', hue = 'region')
plt.show()
```



```
import seaborn as sns
import matplotlib.pyplot as plt

# sample data
data = sns.load_dataset('iris')

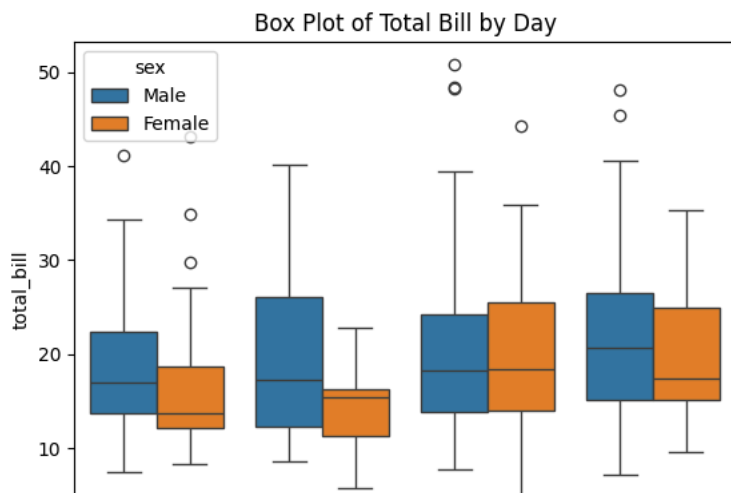
# create a histogram
sns.histplot(data = data, x = 'sepal_length', kde=True)
plt.title('Histogram of Sepal Length')
plt.show()
```



```
import seaborn as sns
import matplotlib.pyplot as plt

# sample data
data = sns.load_dataset('tips')

# create a Box Plot
sns.boxplot(data = data, x = 'day', y = 'total_bill', hue = 'sex')
plt.title('Box Plot of Total Bill by Day')
plt.show()
```



```
import seaborn as sns
import matplotlib.pyplot as plt
```

```
# sample data
data = sns.load_dataset('iris')
```

```
# create a histogram
sns.pairplot(data = data, hue = 'species')
plt.title('Pair Plot of Iris Database')
plt.show()
```

