

Data Visualization Using Matplotlib

```
In [1]: #Exp no.:6  
#Name:Sahil A. Bankar  
#ROLL no:04  
#Sec:B  
#Subject:  
#Date:06/10/2025
```

```
In [2]: #importing the basic library  
import numpy as np  
from matplotlib import pyplot as plt
```

```
In [3]: x=np.arange(1,11)
```

```
In [5]: x
```

```
Out[5]: array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10])
```

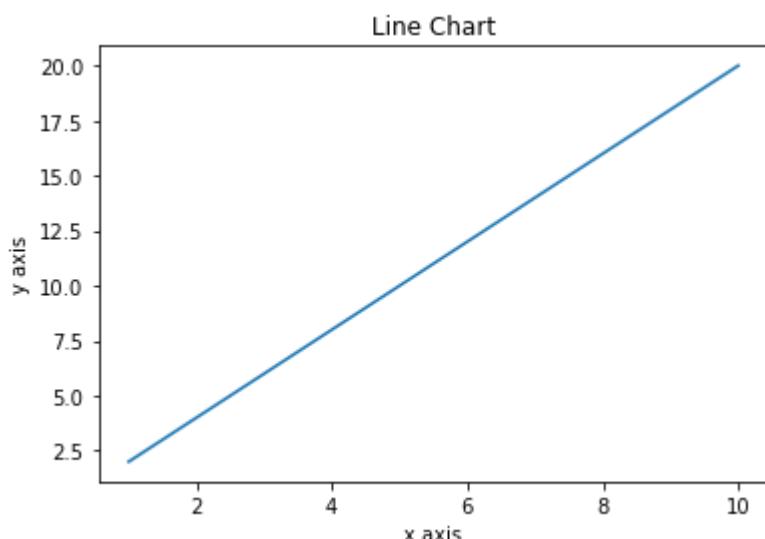
```
In [6]: y=2*x
```

```
In [7]: y
```

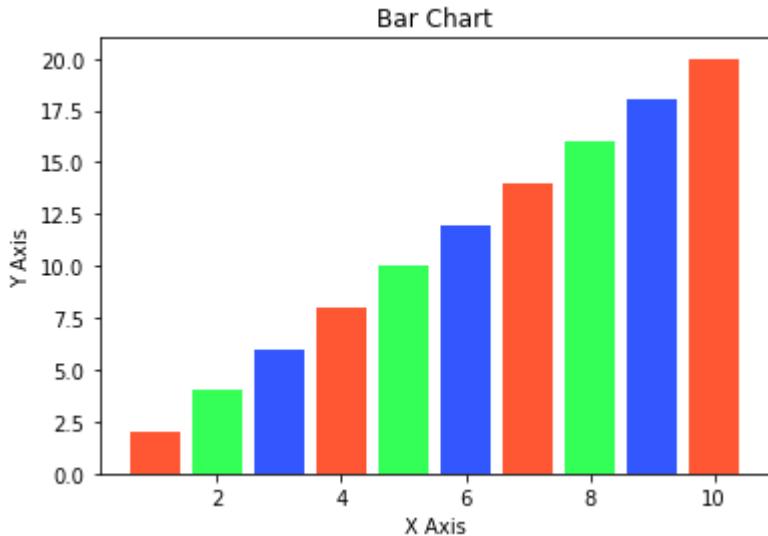
```
Out[7]: array([ 2,  4,  6,  8, 10, 12, 14, 16, 18, 20])
```

Line Chart

```
In [11]: plt.plot(x,y)  
plt.title("Line Chart")  
plt.xlabel("x axis")  
  
plt.ylabel("y axis")  
plt.show()
```



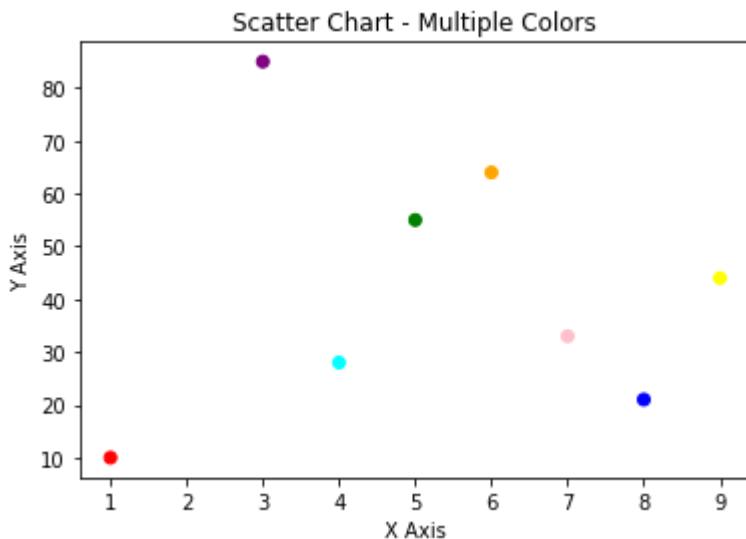
```
In [15]: plt.bar(x, y, color=['#FF5733', '#33FF57', '#3357FF'])  
plt.title("Bar Chart")  
plt.xlabel("X Axis")  
plt.ylabel("Y Axis")  
plt.show()
```



Scattered Plot

```
In [18]: a=(1,5,8,6,3,7,9,4)
b=(10,55,21,64,85,33,44,28)

plt.scatter(a, b, color=['red', 'green', 'blue', 'orange', 'purple', 'pink', 'yellow'])
plt.title("Scatter Chart - Multiple Colors")
plt.xlabel("X Axis")
plt.ylabel("Y Axis")
plt.show()
```



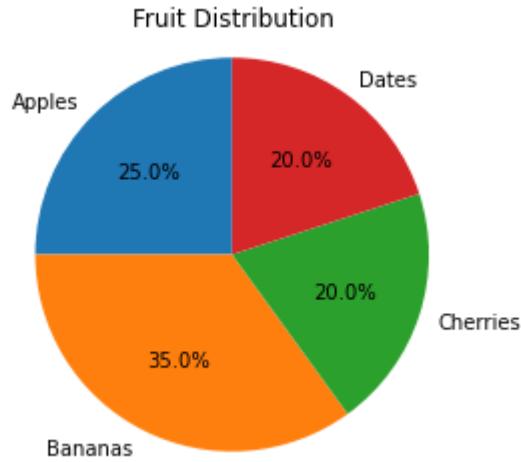
```
In [20]: # Data
labels = ['Apples', 'Bananas', 'Cherries', 'Dates']
sizes = [25, 35, 20, 20] # Must sum to 100 (or any total - matplotlib will normalize)

# Create pie chart
plt.pie(sizes, labels=labels, autopct='%1.1f%%', startangle=90)

# Make the chart a circle
plt.axis('equal')

# Title
plt.title('Fruit Distribution')

# Show the plot
plt.show()
```

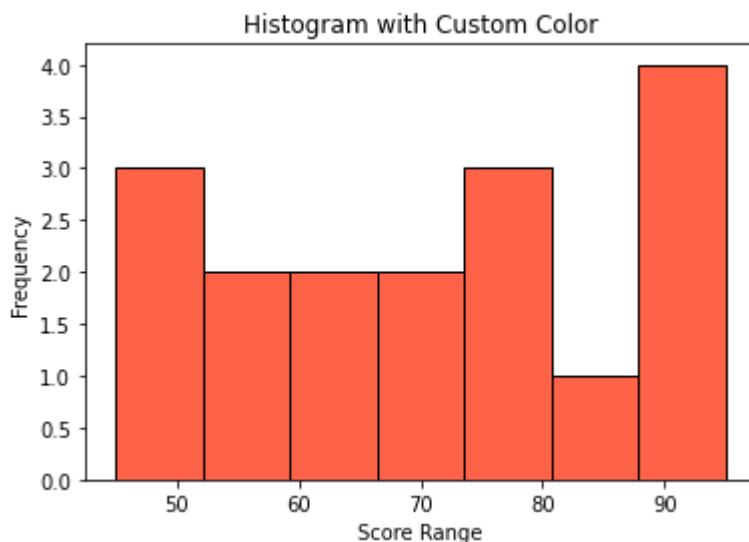


```
In [25]: # Sample data
data = [55, 67, 45, 70, 75, 90, 95, 85, 88, 76, 65, 60, 55, 52, 45, 95, 80]

# Create histogram with color
plt.hist(data, bins=7, color='tomato', edgecolor='black')

# Add Labels and title
plt.xlabel('Score Range')
plt.ylabel('Frequency')
plt.title('Histogram with Custom Color')

# Show the plot
plt.show()
```



Conclusion :

Thus we completed practical on Data Visualization Using Matplotlib.

```
In [ ]:
```