Data Visualization Using Matplotlib

In [1]:
```
#Name:Vedant M.Padole
#Roll no:42
#Sec:C
#Subject:ET1
#Date:
```

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
```

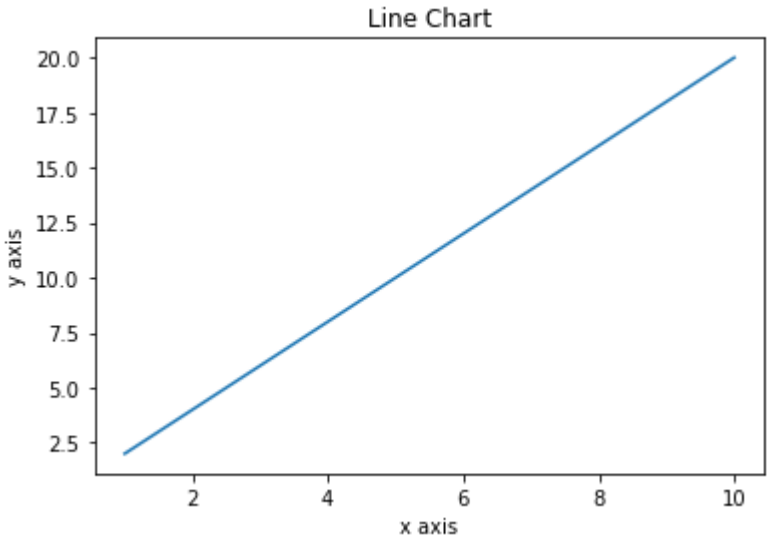
In [7]:
```
y
```

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

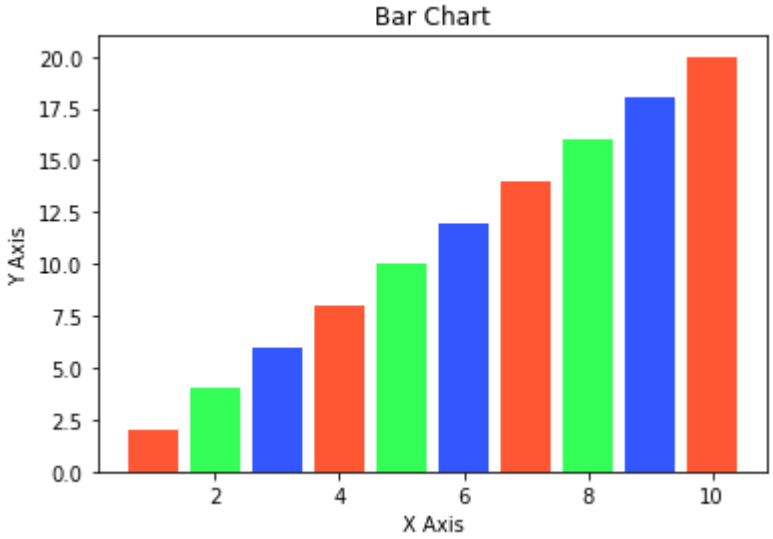
Line Chart

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

plt.ylabel("y axis")
plt.show()
```



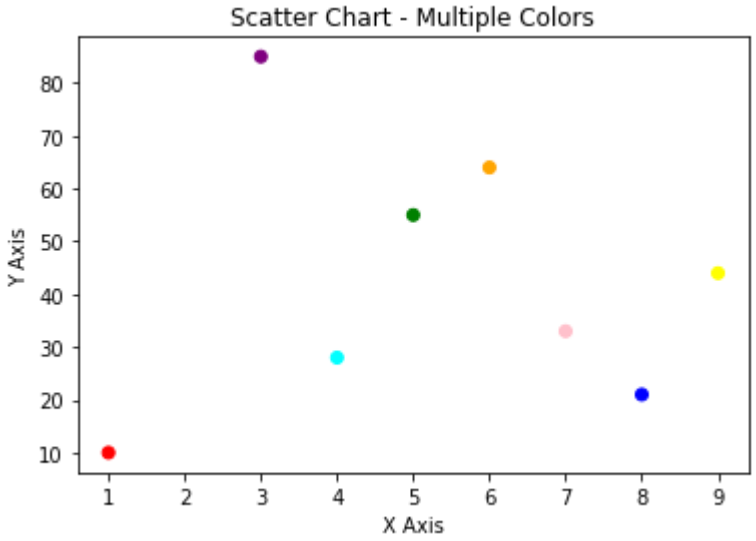
In [15]:
```
plt.bar(x, y, color=['#FF5733', '#33FF57', '#3357FF'])
plt.title("Bar Chart") plt.xlabel("X Axis")
plt.ylabel("Y Axis")
plt.show()
```



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()
```



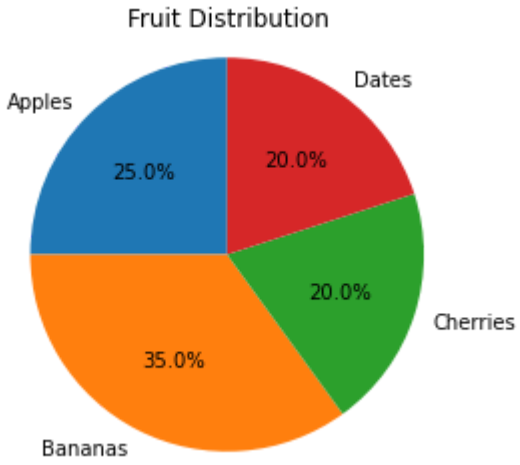
In [20]:
```
# Data
labels = ['Apples', 'Bananas', 'Cherries', 'Dates']
sizes = [25, 35, 20, 20]  # Must sum to 100 (or any total – matplotlib will normaliz

# 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()
```

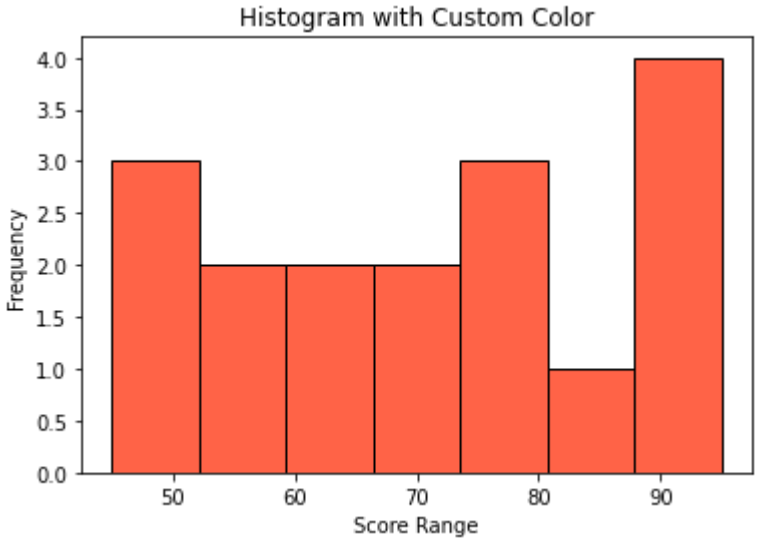


In [25]:
```
# Sample data
data = [55, 67, 45, 70, 75, 90, 95, 85, 88, 76, 65, 60, 55, 52, 45, 95, 80]

# 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 :

Thuswecompletedpractical on Data Visualization Using Matplotlib.

In [ ]: