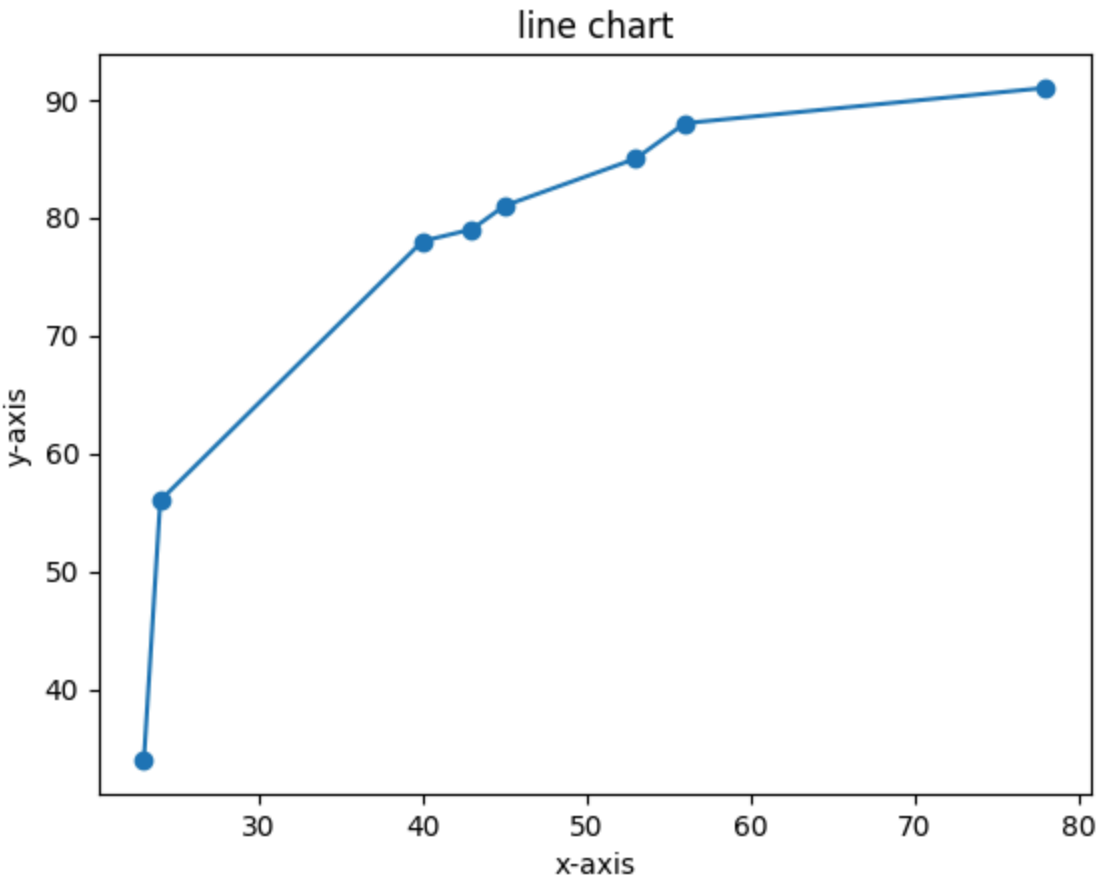
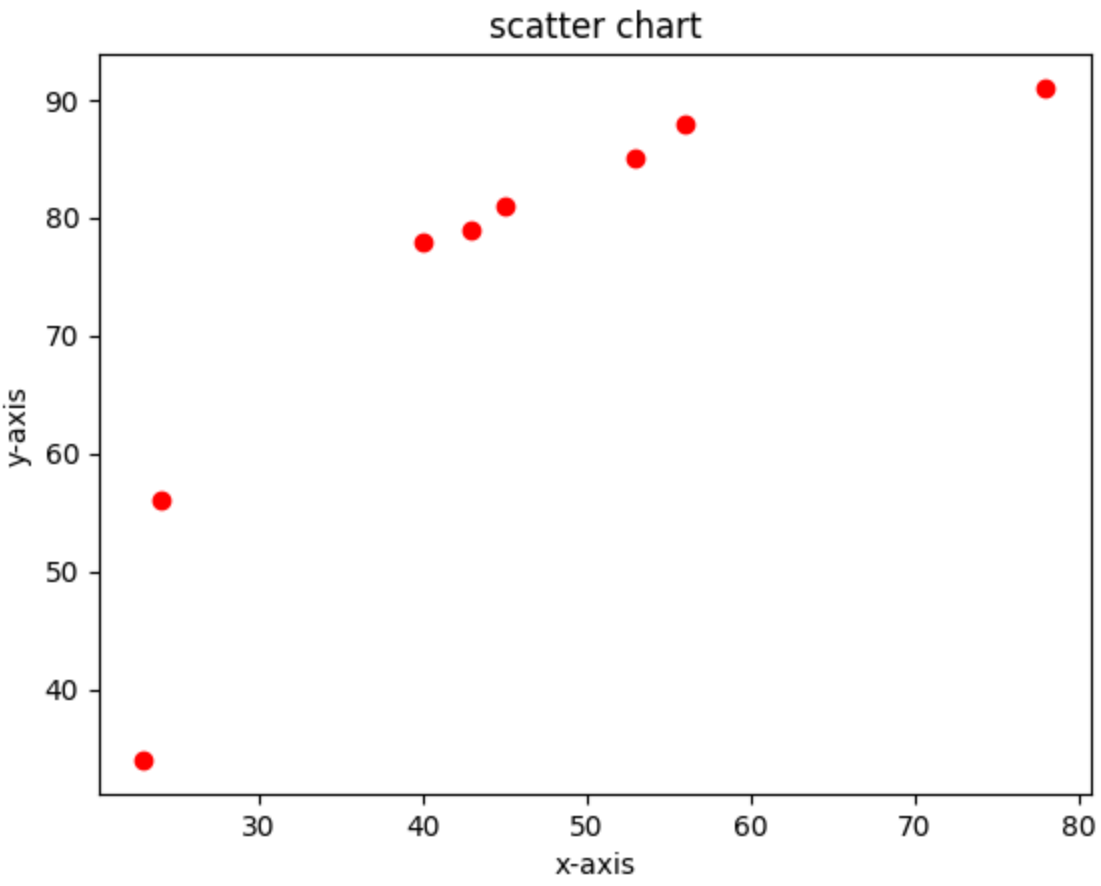
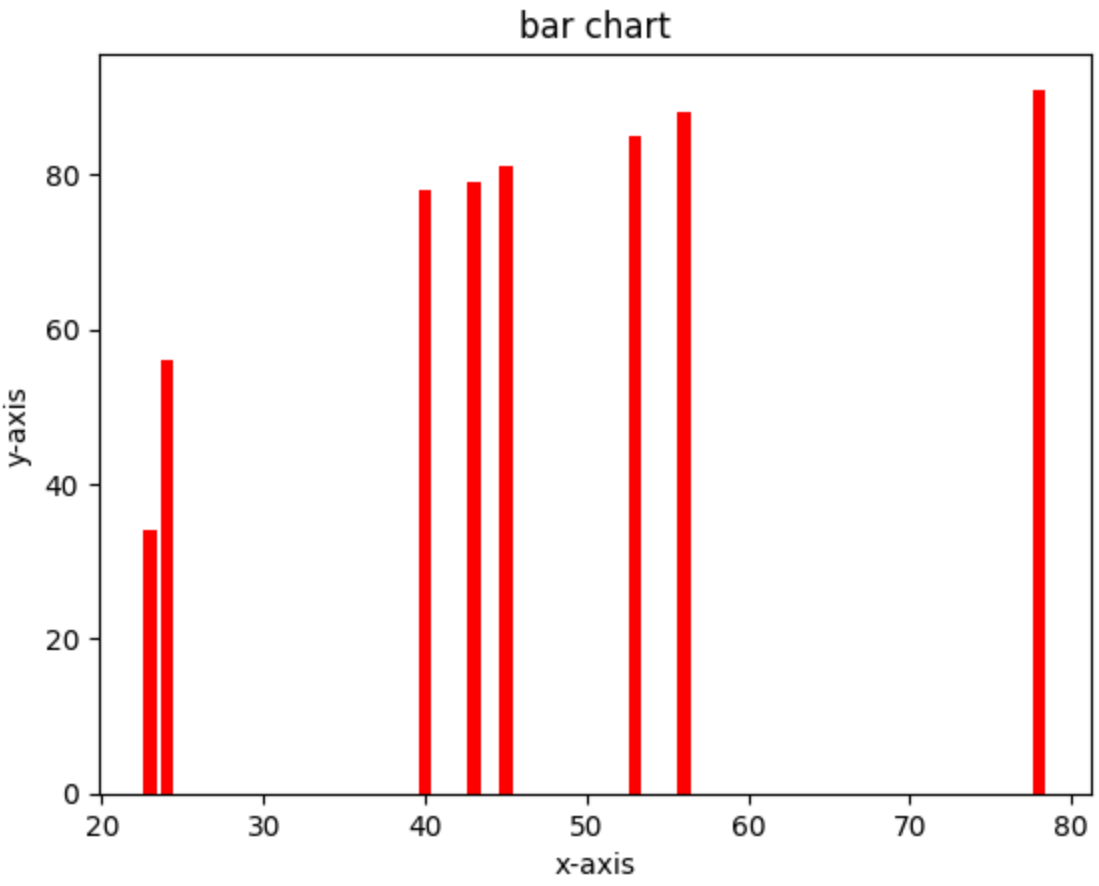
In [6]:
```
import matplotlib.pyplot as plt

#to create a line chart
#specifying points of x-axis

x=[23,24,40,43,45,53,56,78]

#specifying points of y-axis

y=[34,56,78,79,81,85,88,91]

#to create a line chart
plt.plot(x,y,marker="o")

#to set x label

plt.xlabel('x-axis')

#to set y label

plt.ylabel('y-axis')

#to set title of plot

plt.title('line chart')
plt.show()
```



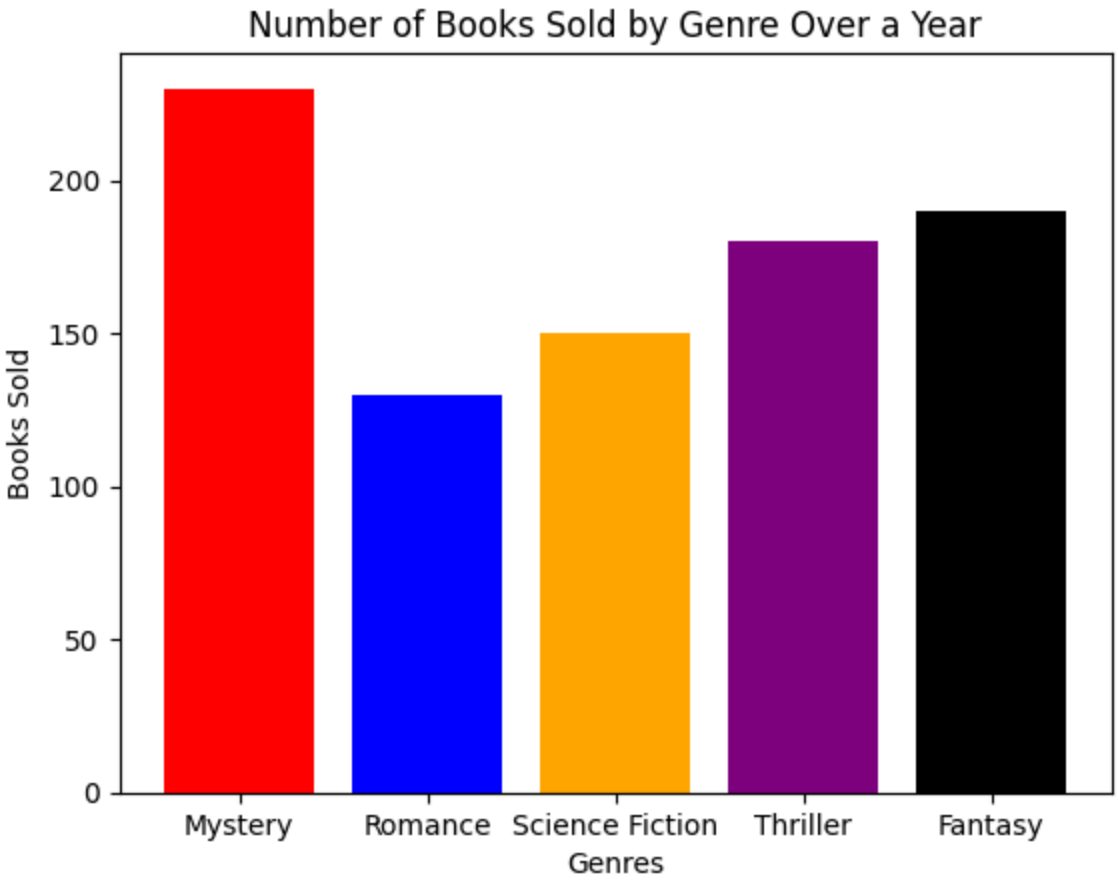
In [8]:
```
import matplotlib.pyplot as plt

#to create a scatter chart
#specifying points of x-axis

x=[23,24,40,43,45,53,56,78]

#specifying points of y-axis

y=[34,56,78,79,81,85,88,91]

#to create a line chart
plt.scatter(x,y, color='red')

#to set x label

plt.xlabel('x-axis')

#to set y label

plt.ylabel('y-axis')

#to set title of plot

plt.title('scatter chart')
plt.show()
```



In [9]:
```
import matplotlib.pyplot as plt

#to create a scatter chart
#specifying points of x-axis

x=[23,24,40,43,45,53,56,78]

#specifying points of y-axis

y=[34,56,78,79,81,85,88,91]

#to create a line chart
plt.bar(x,y, color='red')

#to set x label

plt.xlabel('x-axis')

#to set y label

plt.ylabel('y-axis')

#to set title of plot

plt.title('bar chart')
plt.show()
```

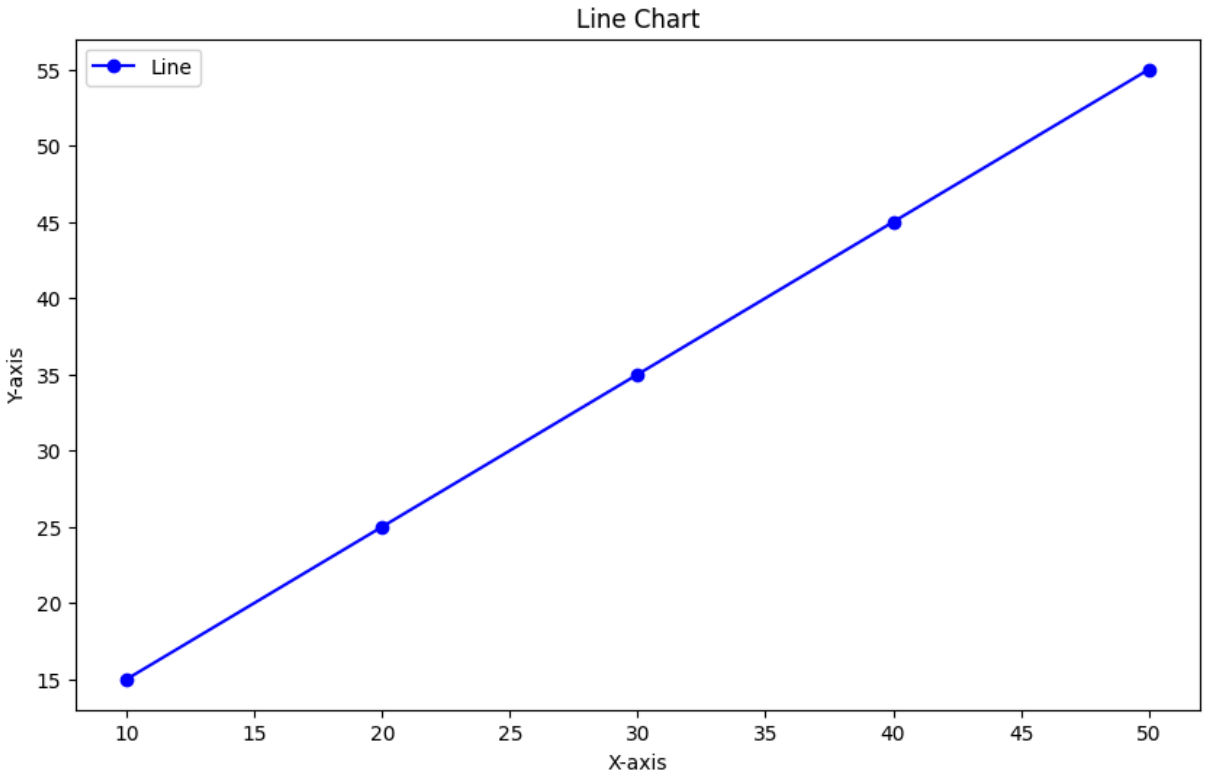


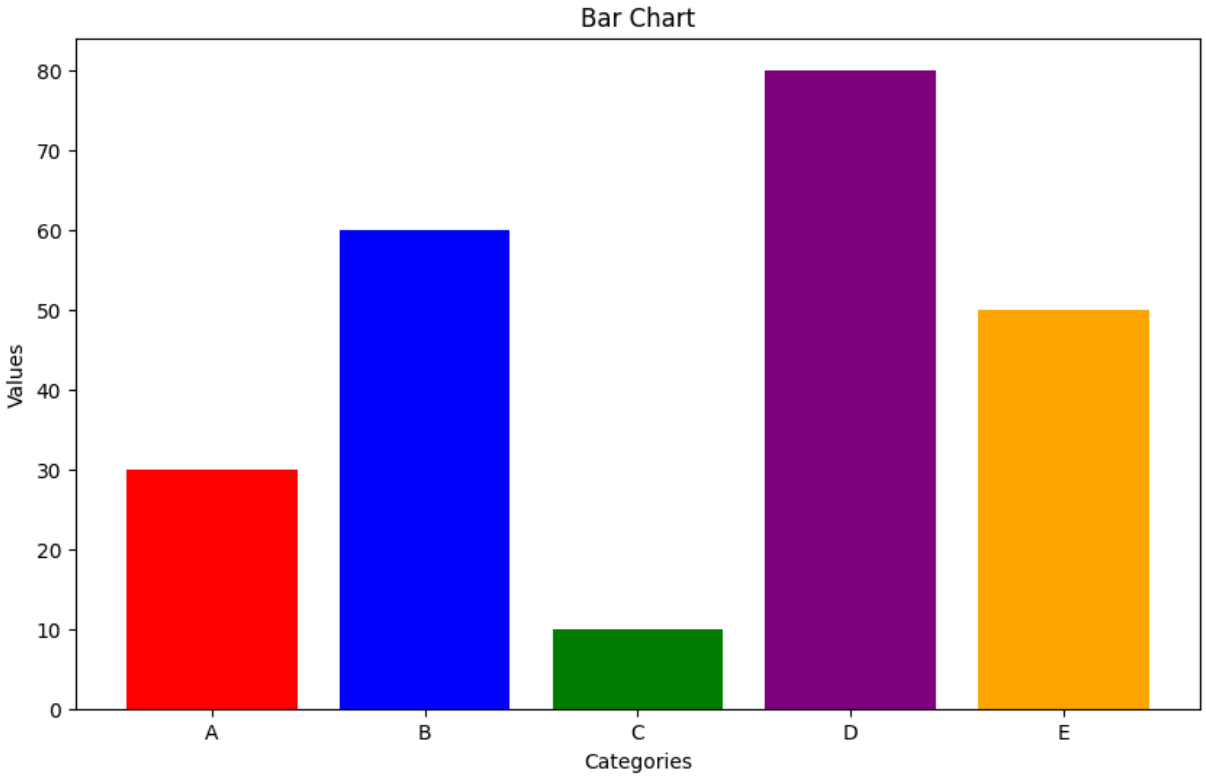
In [13]:
```
import matplotlib.pyplot as plt

# Corrected genre names
genres = ["Mystery", "Romance", "Science Fiction", "Thriller", "Fantasy"]

# Books sold
book_sold = [230, 130, 150, 180, 190]

# Colors for bars
colors = ['red', 'blue', 'orange', 'purple', 'black']

# Create bar chart
plt.bar(genres, book_sold, color=colors)

# Labels and title
plt.xlabel('Genres')
plt.ylabel('Books Sold')
plt.title('Number of Books Sold by Genre Over a Year')

# Show plot
plt.show()
```

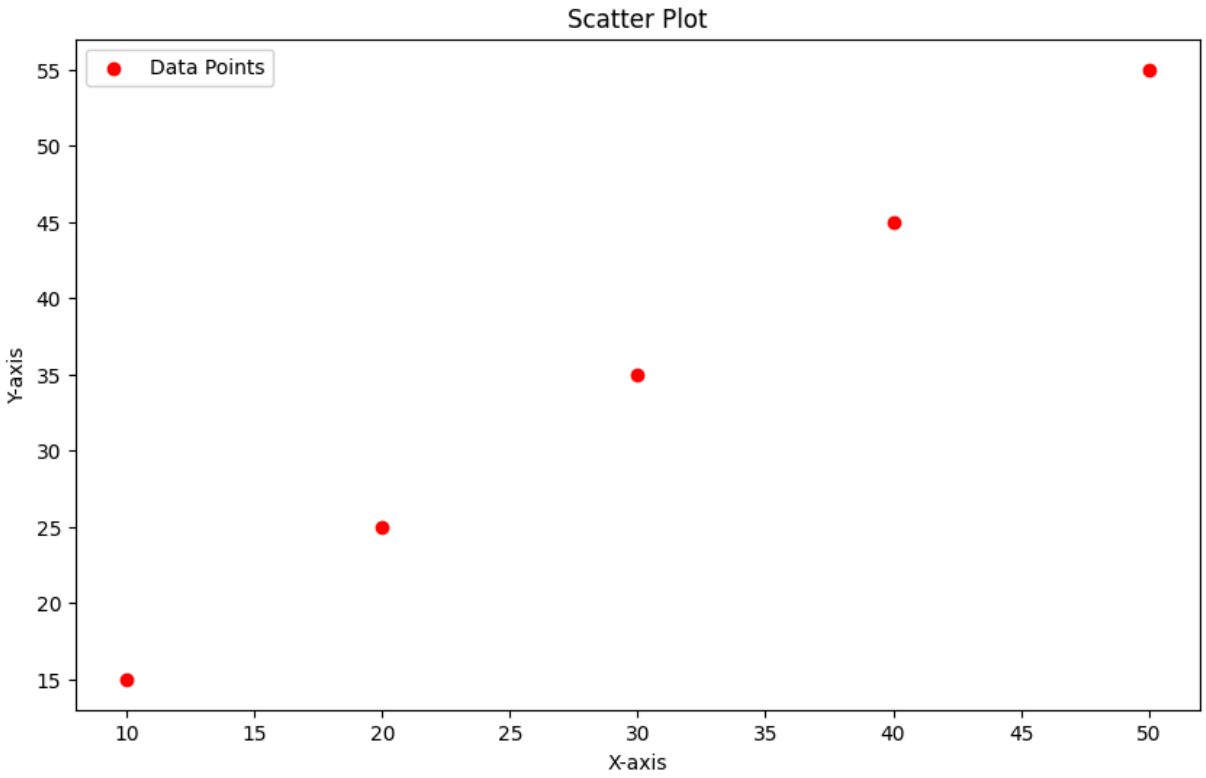


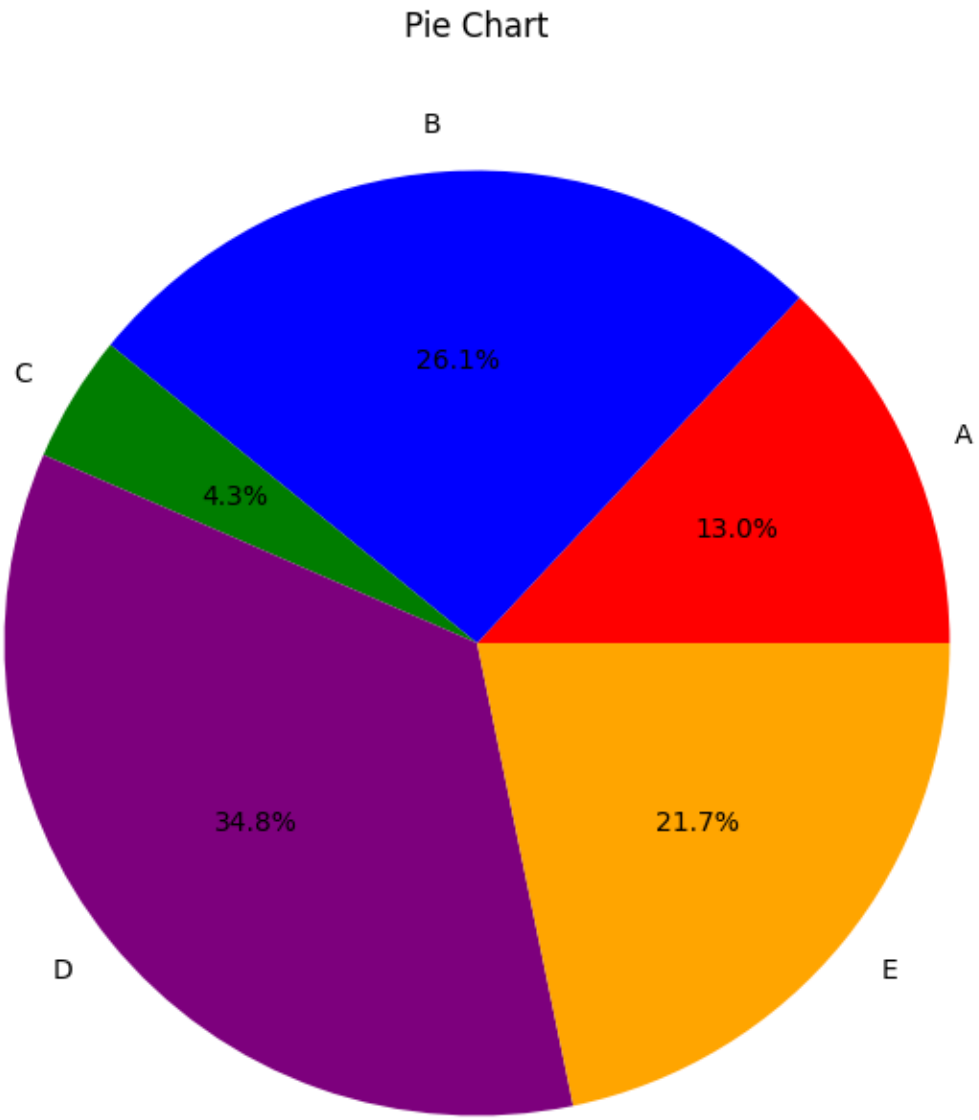
In [14]:
```
import matplotlib.pyplot as plt
import numpy as np

# Sample Data
x = np.array([10, 20, 30, 40, 50])
y = np.array([15, 25, 35, 45, 55])
```

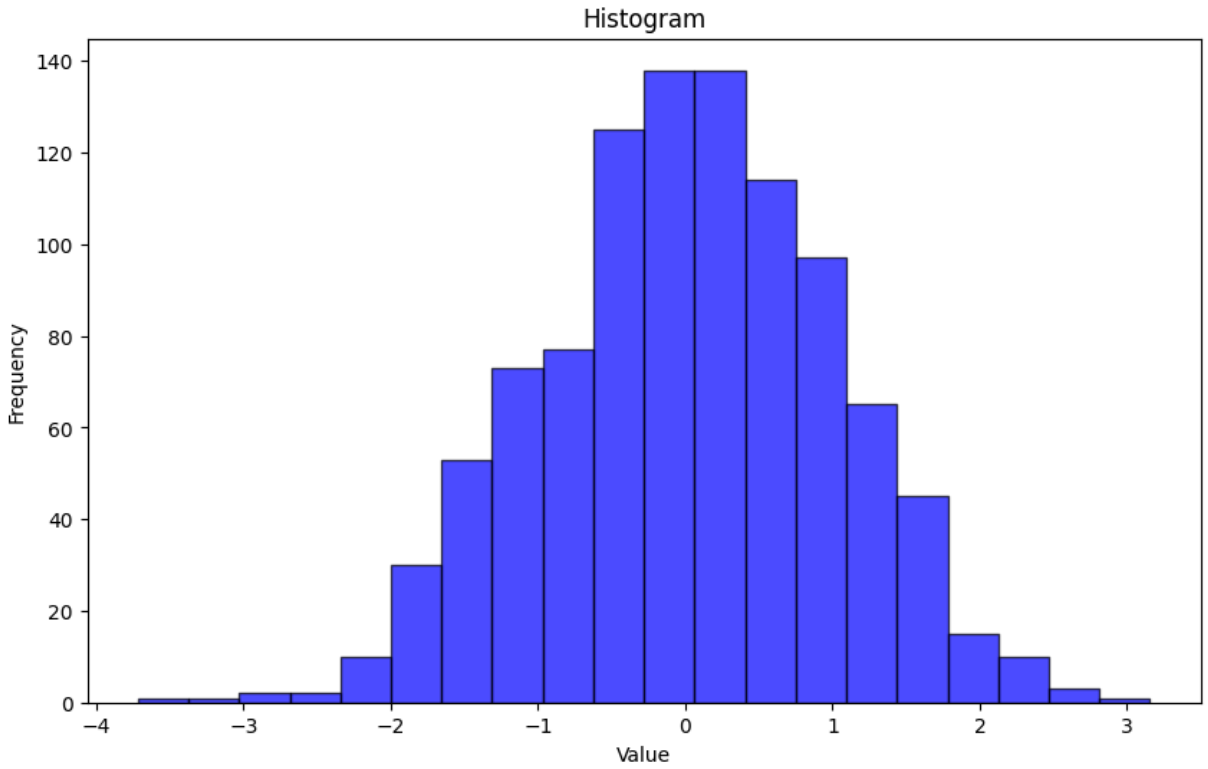
```
categories = ["A", "B", "C", "D", "E"]
values = [30, 60, 10, 80, 50]

# 1️⃣ **Line Chart**
plt.figure(figsize=(10, 6))
plt.plot(x, y, marker="o", linestyle="-", color="b", label="Line")
plt.xlabel("X-axis")
plt.ylabel("Y-axis")
plt.title("Line Chart")
plt.legend()
plt.show()

# 2️⃣ **Bar Chart**
plt.figure(figsize=(10, 6))
plt.bar(categories, values, color=['red', 'blue', 'green', 'purple', 'orange'])
plt.xlabel("Categories")
plt.ylabel("Values")
plt.title("Bar Chart")
plt.show()

# 3️⃣ **Scatter Plot**
plt.figure(figsize=(10, 6))
plt.scatter(x, y, color="red", label="Data Points")
plt.xlabel("X-axis")
plt.ylabel("Y-axis")
plt.title("Scatter Plot")
plt.legend()
plt.show()

# 4️⃣ **Pie Chart**
plt.figure(figsize=(8, 8))
plt.pie(values, labels=categories, autopct="%1.1f%%", colors=['red', 'blue', 'green
plt.title("Pie Chart")
plt.show()

# 5️⃣ **Histogram**
data = np.random.randn(1000)  # Generating 1000 random values
plt.figure(figsize=(10, 6))
plt.hist(data, bins=20, color="blue", edgecolor="black", alpha=0.7)
plt.xlabel("Value")
plt.ylabel("Frequency")
plt.title("Histogram")
plt.show()
```


Line Chart
Line
Y-axis
X-axis
55
50
45
40
35
30
25
20
15
10
15
20
25
30
35
40
45
50


Bar Chart
Values
Categories
80
70
60
50
40
30
20
10
0
A
B
C
D
E


Scatter Plot
Data Points
Y-axis
X-axis
55
50
45
40
35
30
25
20
15
10
15
20
25
30
35
40
45
50


Pie Chart
B
C
A
26.1%
4.3%
13.0%
34.8%
21.7%
D
E



In [ ]: