

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

# Generate some random data
np.random.seed(0)
x = np.random.rand(50)
y = np.random.rand(50)
sizes = np.random.randint(10, 100, size=50)
labels = ['A', 'B', 'C', 'D', 'E']
sizes_pie = np.random.randint(1, 10, size=len(labels))

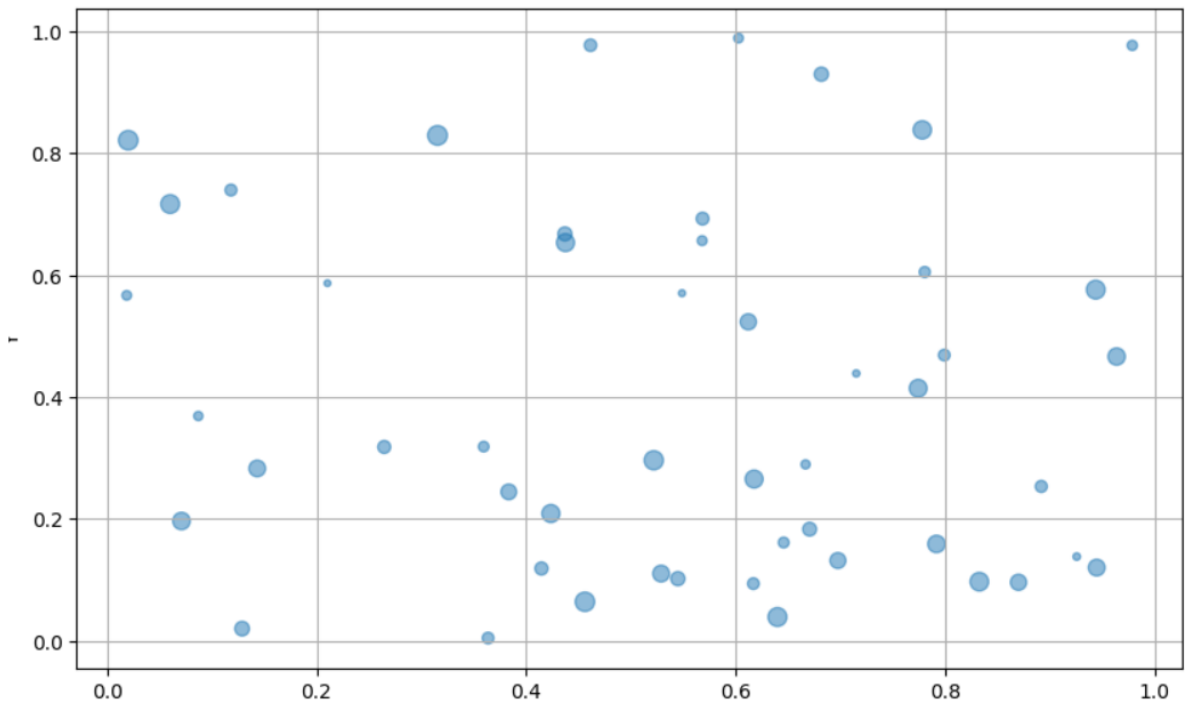
# Create a DataFrame
data = pd.DataFrame({'X': x, 'Y': y, 'Sizes': sizes})

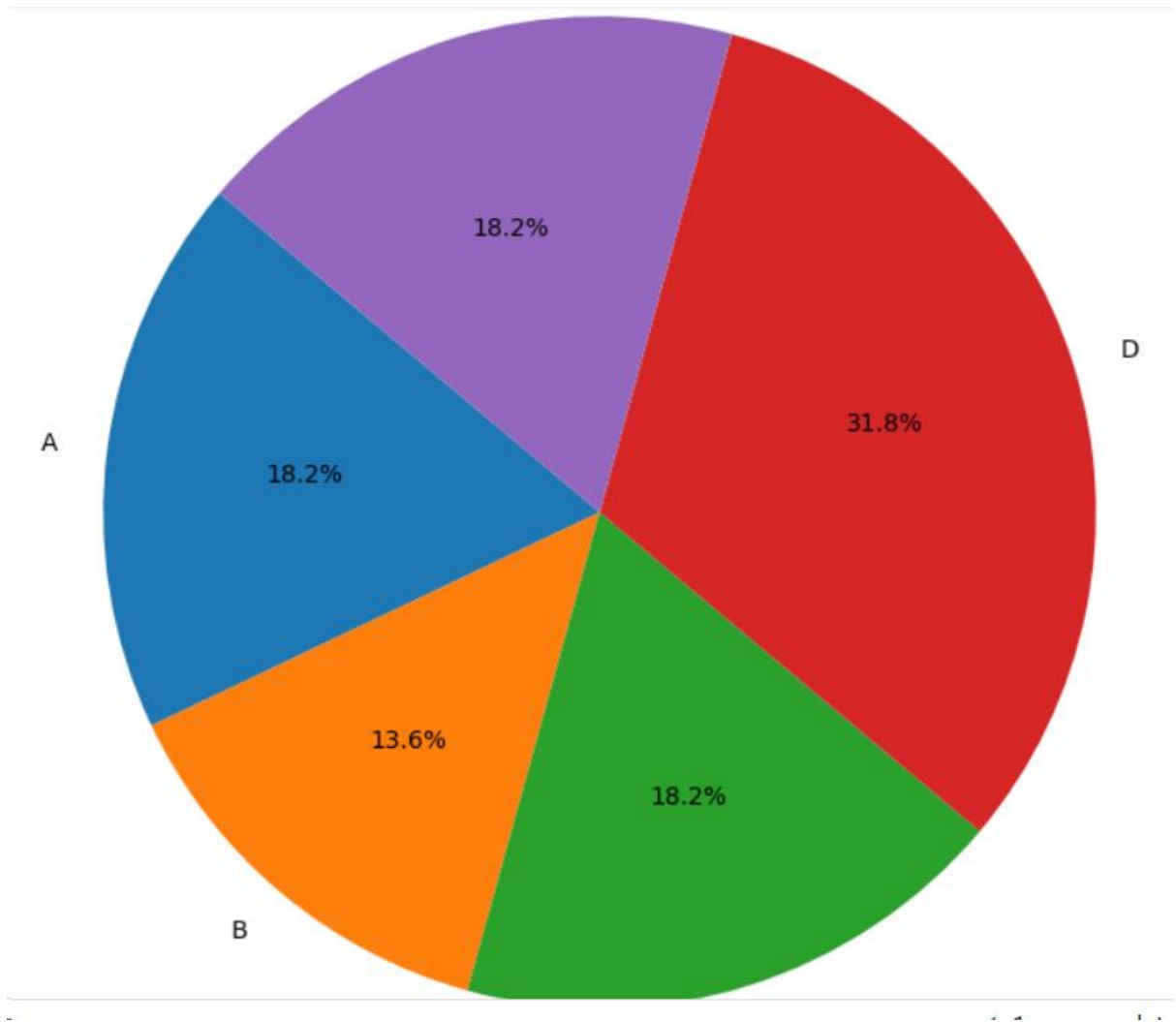
# Scatter plot
plt.figure(figsize=(10, 6))
plt.scatter(data['X'], data['Y'], s=data['Sizes'], alpha=0.5)
plt.title('Scatter Plot')
plt.xlabel('X')
plt.ylabel('Y')
plt.grid(True)
plt.show()

# Pie chart
plt.figure(figsize=(8, 8))
plt.pie(sizes_pie, labels=labels, autopct='%1.1f%%', startangle=140)
plt.title('Pie Chart')
plt.axis('equal')
plt.show()

# Line chart
x_line = np.linspace(0, 10, 50)
y_line = np.sin(x_line)
plt.figure(figsize=(10, 6))
plt.plot(x_line, y_line)
plt.title('Line Chart')
plt.xlabel('X')
plt.ylabel('Y')
plt.grid(True)
plt.show()
```

Scatter Plot





Line Chart

