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3rd Year, ECE -A

data-visualisation

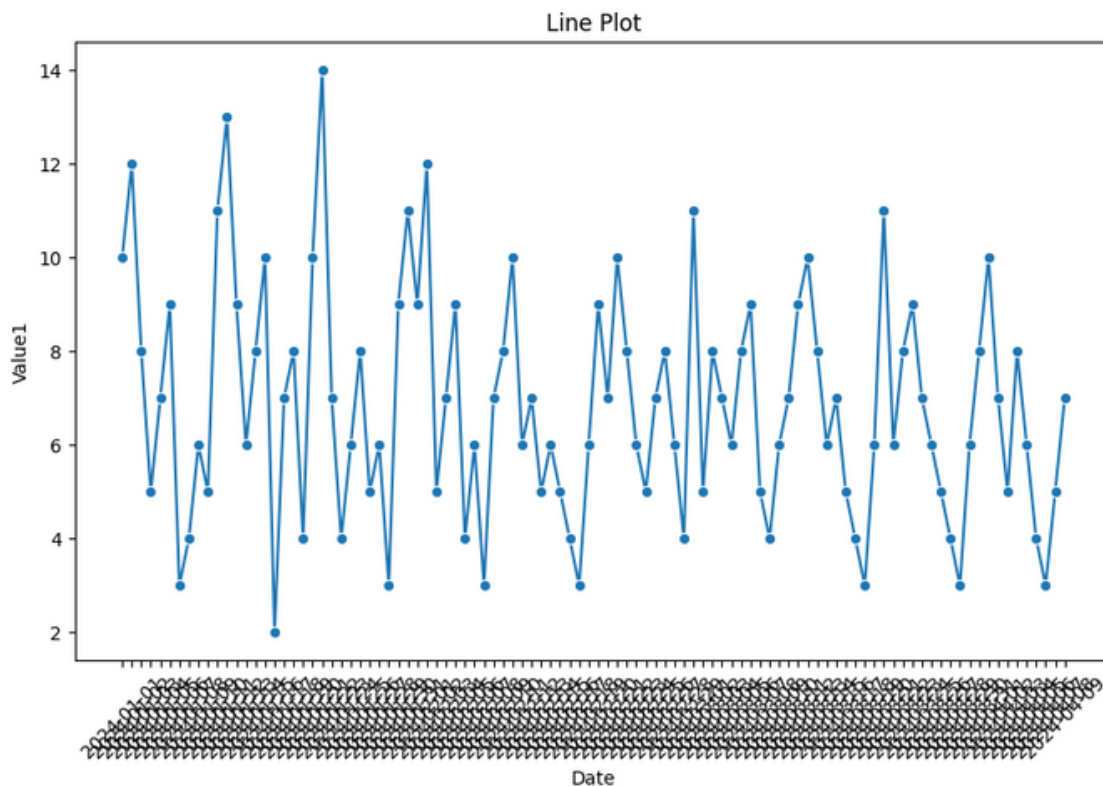
February 13, 2024

```
[32]: import pandas as pd  
import matplotlib.pyplot as plt  
import seaborn as sns
```

```
[33]: df = pd.read_csv('/content/data.csv.txt')
```

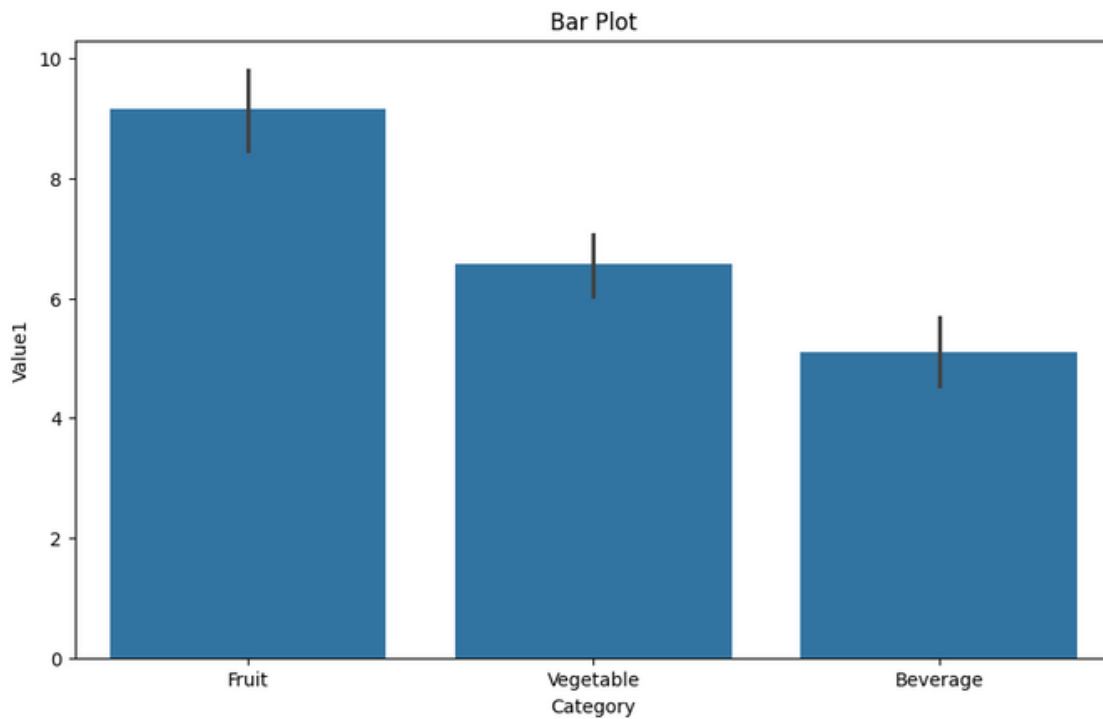
#1. Line Plot

```
[34]: plt.figure(figsize=(10, 6))  
sns.lineplot(x='Date', y='Value1', data=df, marker='o')  
plt.title('Line Plot')  
plt.xlabel('Date')  
plt.ylabel('Value1')  
plt.xticks(rotation=45)  
plt.show()
```



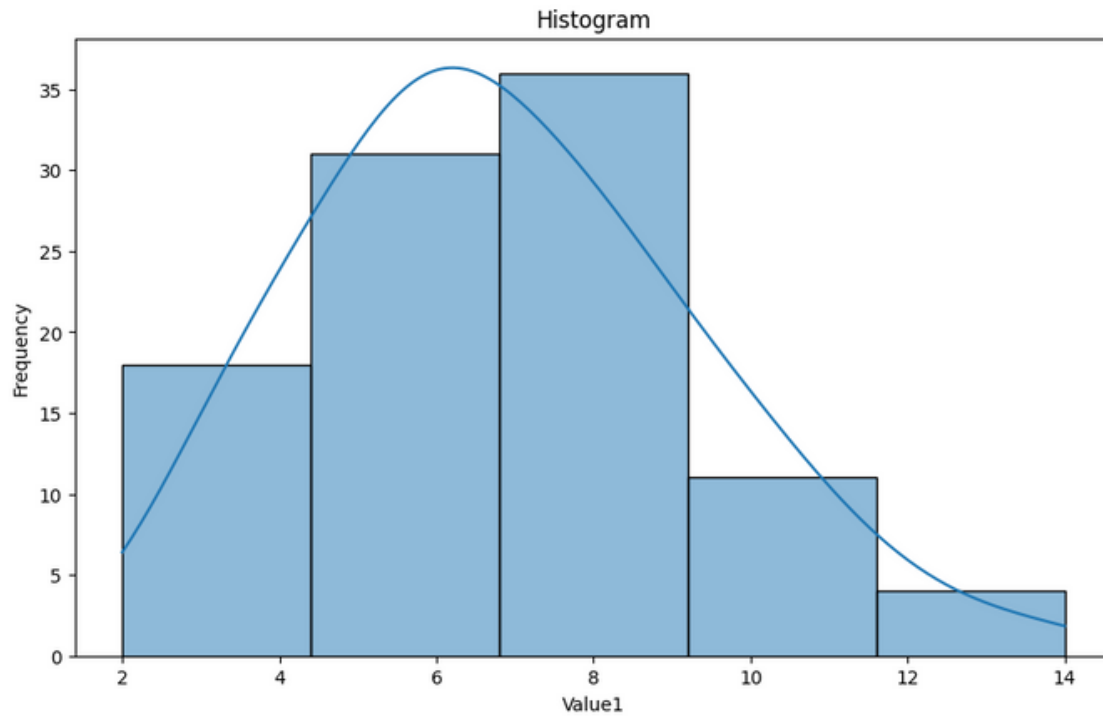
#2. Bar Plot

```
[35]: plt.figure(figsize=(10, 6))
      sns.barplot(x='Category', y='Value1', data=df)
plt.title('Bar Plot')
plt.xlabel('Category')
plt.ylabel('Value1')
plt.show()
```



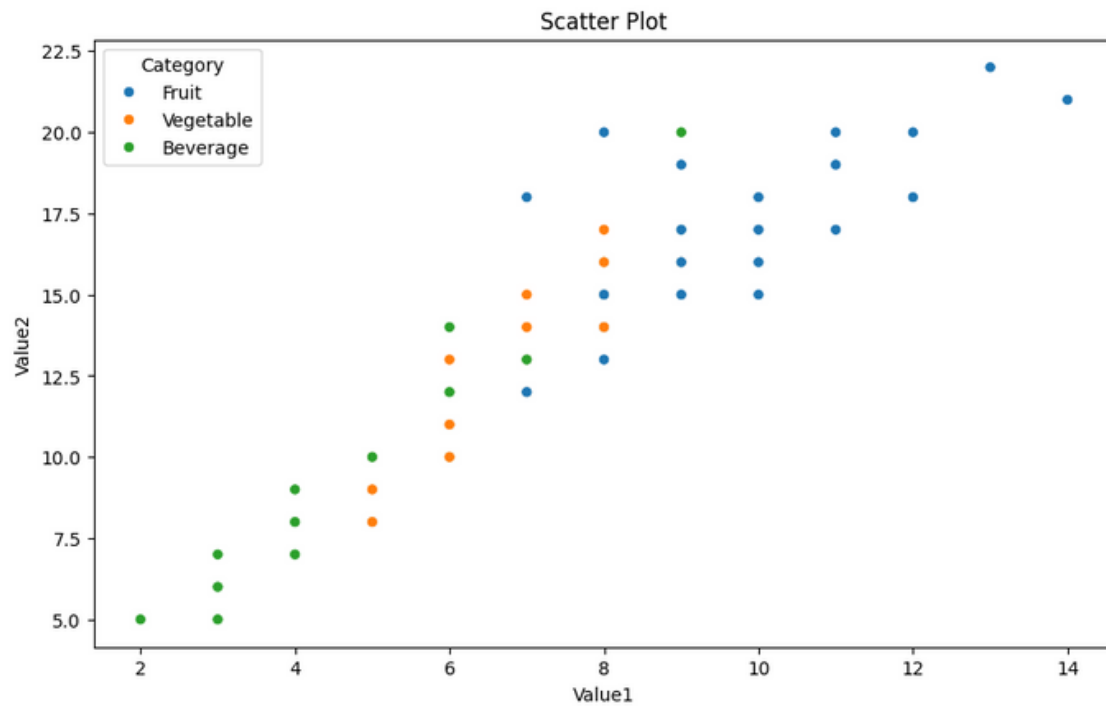
#3. Histogram

```
[36]: plt.figure(figsize=(10, 6))
      sns.histplot(df['Value1'], bins=5, kde=True)
plt.title('Histogram')
plt.xlabel('Value1')
plt.ylabel('Frequency')
plt.show()
```



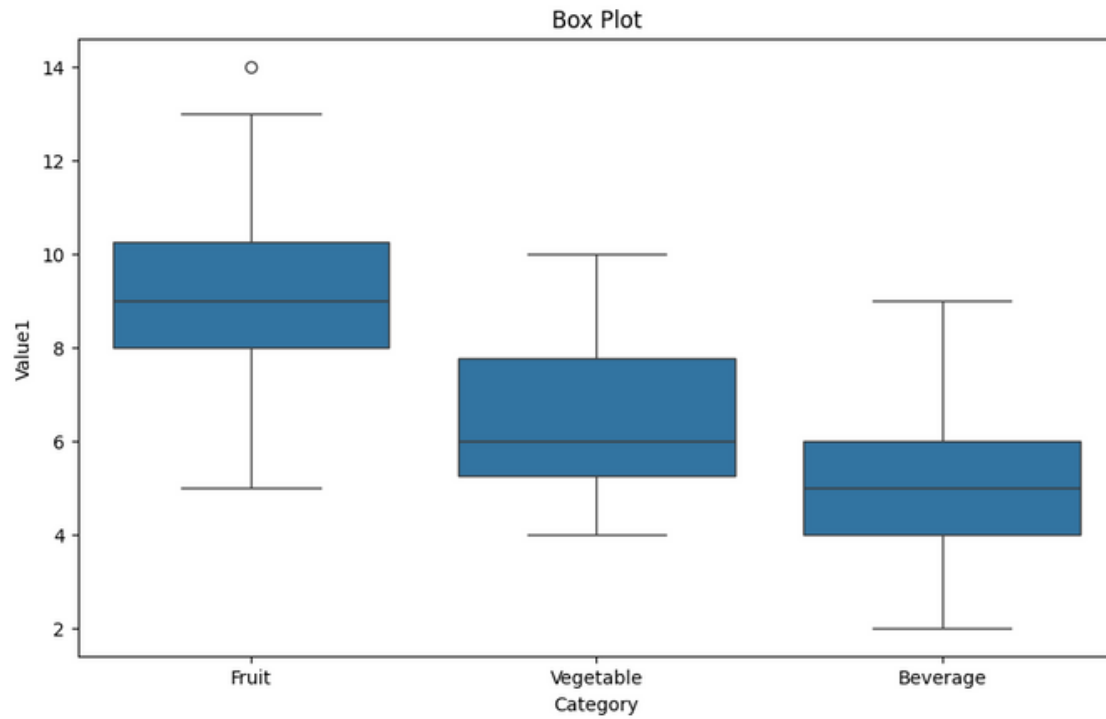
#4. Scatter Plot

```
[37]: plt.figure(figsize=(10, 6))  
      sns.scatterplot(x='Value1', y='Value2', data=df, hue='Category')  
plt.title('Scatter Plot')  
plt.xlabel('Value1')  
plt.ylabel('Value2')  
plt.show()
```



1 5. Box Plot

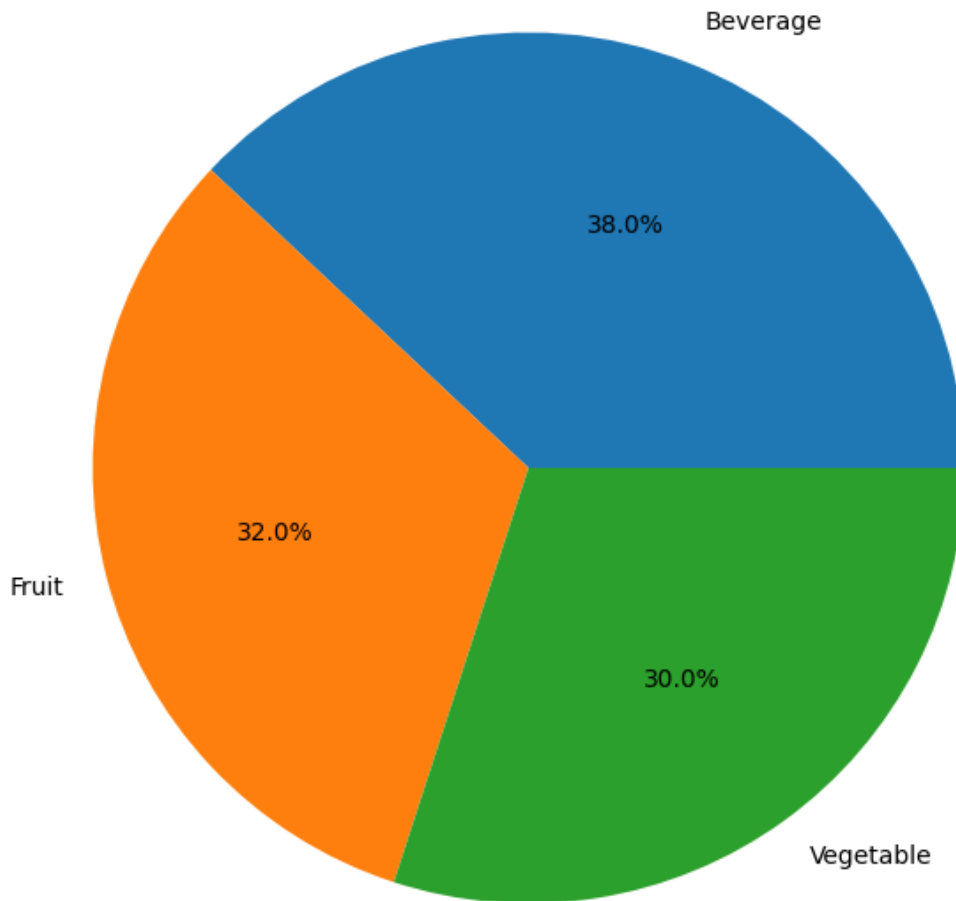
```
[38]: plt.figure(figsize=(10, 6))
      sns.boxplot(x='Category', y='Value1', data=df)
plt.title('Box Plot')
plt.xlabel('Category')
plt.ylabel('Value1')
plt.show()
```



#6. Pie Chart

```
[39]: plt.figure(figsize=(8, 8))
      df['Category'].value_counts().plot.pie(autopct='%1.1f%%')
      plt.title('Pie Chart')
      plt.ylabel('')
      plt.show()
```

Pie Chart

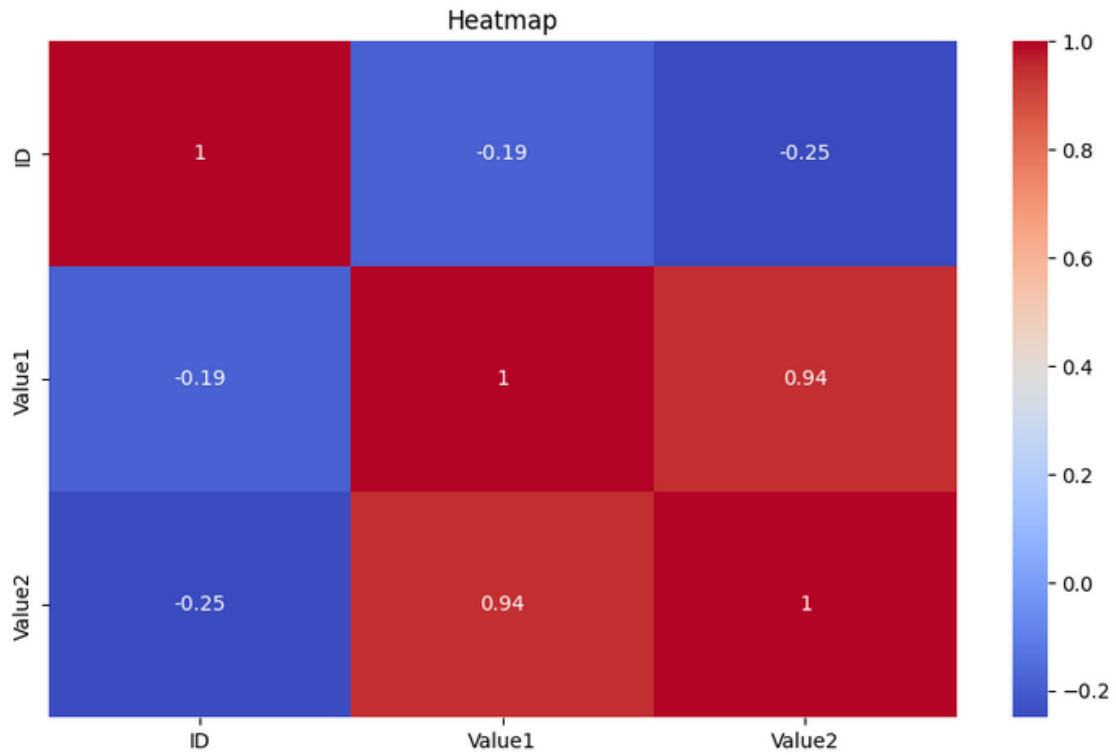


#7. Heat Map

```
[40]: plt.figure(figsize=(10, 6))
sns.heatmap(df.corr(), annot=True, cmap='coolwarm')
plt.title('Heatmap')
plt.show()
```

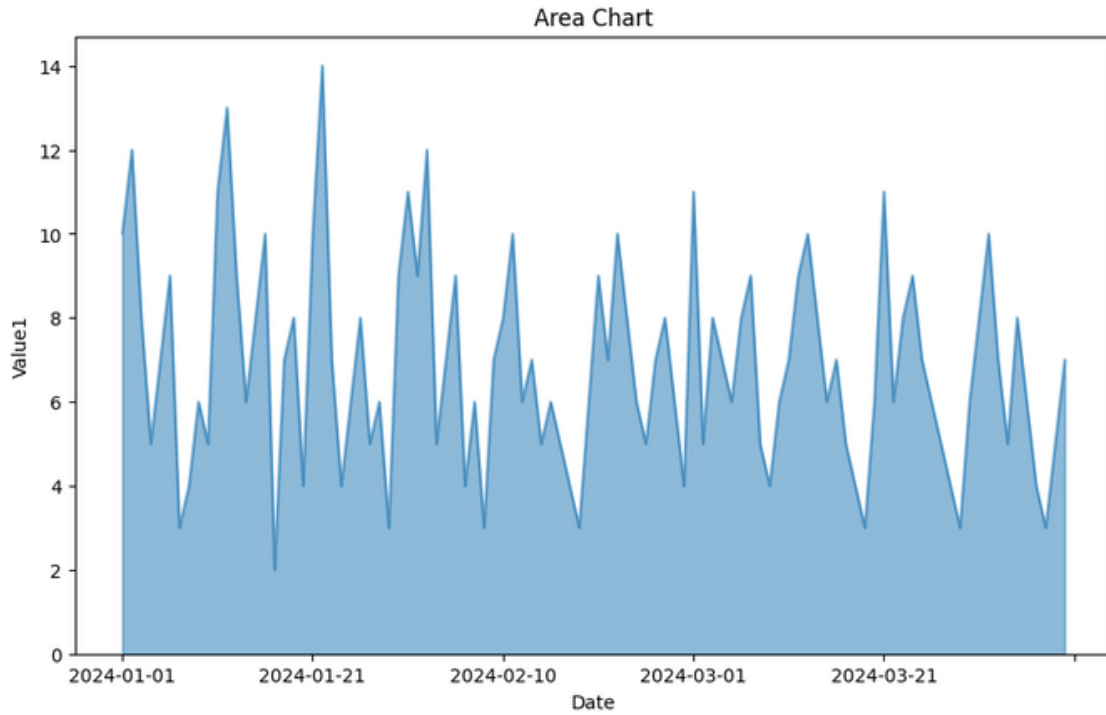
<ipython-input-40-d599dbc66e0e>:2: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric_only to silence this warning.

```
sns.heatmap(df.corr(), annot=True, cmap='coolwarm')
```



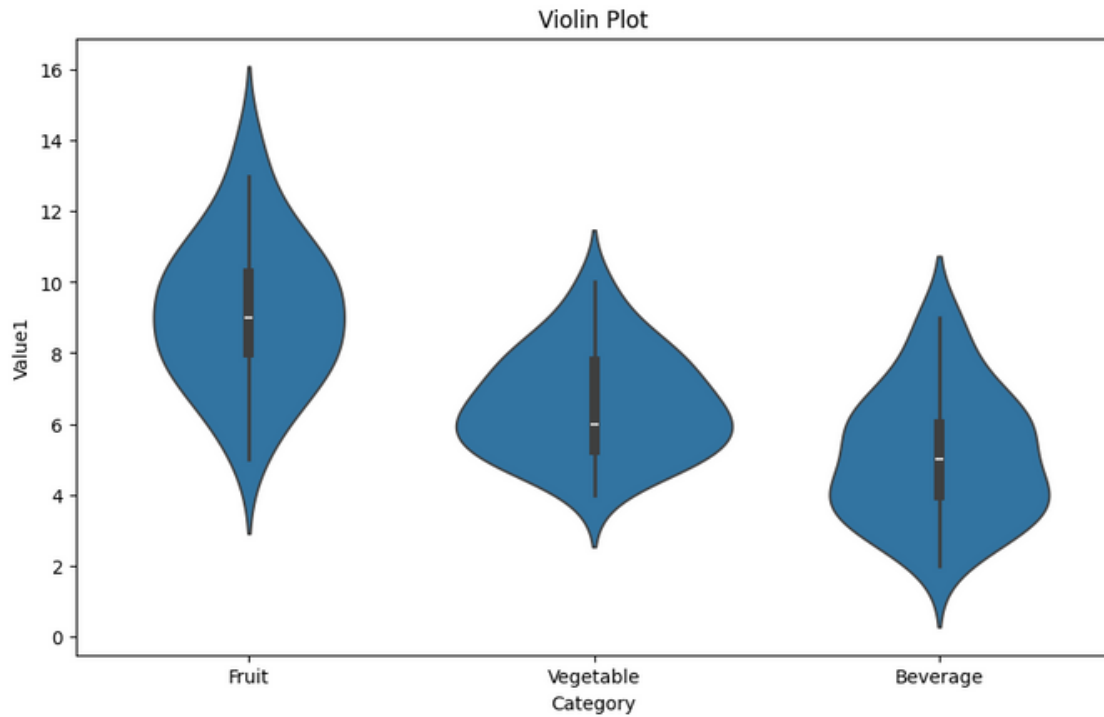
#8. Area Chart

```
[41]: plt.figure(figsize=(10, 6))
      df.groupby('Date')['Value1'].sum().plot(kind='area', stacked=False)
plt.title('Area Chart')
plt.xlabel('Date')
plt.ylabel('Value1')
plt.show()
```



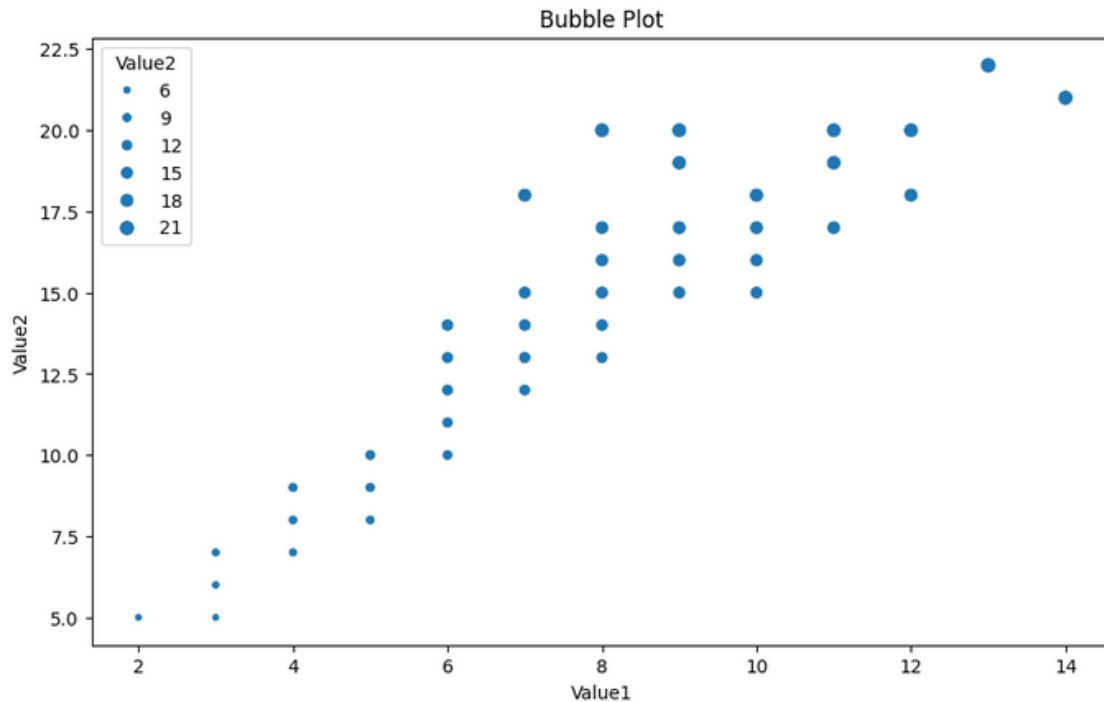
2 9. Violin plot

```
[42]: plt.figure(figsize=(10, 6))
      sns.violinplot(x='Category', y='Value1', data=df)
plt.title('Violin Plot')
plt.xlabel('Category')
plt.ylabel('Value1')
plt.show()
```

3 10. Bubble plot

```
[43]: plt.figure(figsize=(10, 6))
      sns.scatterplot(x='Value1', y='Value2', size='Value2', data=df)
plt.title('Bubble Plot')
plt.xlabel('Value1')
plt.ylabel('Value2')
plt.show()
```



data.csv file link:

https://github.com/Nadhim/ML-Lab/blob/main/Experiment_0%20-%20Data%20Visualisation/data.csv.txt

Data Visualisation Project Link:

https://github.com/Nadhim/ML-Lab/tree/main/Experiment_0%20-%20Data%20Visualisation