

```
import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sns

from wordcloud import WordCloud


# Read the CSV file

# Replace 'file.csv' with the file path provided in the exam
data = pd.read_csv('file.csv')


# Bar Graph

plt.figure(figsize=(8, 6))

data['column_name'].value_counts().plot(kind='bar', color='skyblue')

plt.title('Bar Graph')

plt.xlabel('Categories')

plt.ylabel('Count')

plt.show()


# Boxplot

plt.figure(figsize=(8, 6))

sns.boxplot(data=data, x='categorical_column', y='numerical_column', palette='coolwarm')

plt.title('Boxplot')

plt.show()


# Histogram

plt.figure(figsize=(8, 6))

data['numerical_column'].plot(kind='hist', bins=20, color='orange', edgecolor='black')

plt.title('Histogram')

plt.xlabel('Value')

plt.ylabel('Frequency')

plt.show()
```

```
# Word Cloud
```

```
text = ' '.join(data['text_column'].dropna())
```

```
wordcloud = WordCloud(width=800, height=400, background_color='white').generate(text)
```

```
plt.figure(figsize=(10, 6))
```

```
plt.imshow(wordcloud, interpolation='bilinear')
```

```
plt.axis('off')
```

```
plt.title('Word Cloud')
```

```
plt.show()
```

```
# Scatterplot
```

```
plt.figure(figsize=(8, 6))
```

```
sns.scatterplot(data=data, x='numerical_column_1', y='numerical_column_2',  
hue='categorical_column', palette='viridis')
```

```
plt.title('Scatterplot')
```

```
plt.show()
```

```
# Bubble Plot
```

```
plt.figure(figsize=(8, 6))
```

```
plt.scatter(data['numerical_column_1'], data['numerical_column_2'],
```

```
            s=data['size_column'] * 10, alpha=0.5, c='blue')
```

```
plt.title('Bubble Plot')
```

```
plt.xlabel('Numerical Column 1')
```

```
plt.ylabel('Numerical Column 2')
```

```
plt.show()
```

```
# Line Chart
```

```
plt.figure(figsize=(8, 6))
```

```
sns.lineplot(data=data, x='time_column', y='numerical_column', hue='categorical_column')
```

```
plt.title('Line Chart')
```

```
plt.xlabel('Time')
```

```
plt.ylabel('Value')
```

```
plt.show()

# Slope Graph
# Reshaping data for slope graph
slope_data = data.pivot(index='index_column', columns='time_column', values='numerical_column')
for i in range(len(slope_data)):
    plt.plot(slope_data.columns, slope_data.iloc[i], marker='o', label=slope_data.index[i])
plt.title('Slope Graph')
plt.xlabel('Time')
plt.ylabel('Value')
plt.legend()
plt.show()
```

Explanation:

1. Replace placeholders (column_name, categorical_column, numerical_column, etc.) with actual column names from your dataset.
2. Make sure to adjust the visualization parameters based on the CSV file's structure.
3. The code assumes the CSV file is well-formed and that you know the data types of the columns. Perform initial exploratory data analysis (EDA) if needed to verify column names and types.