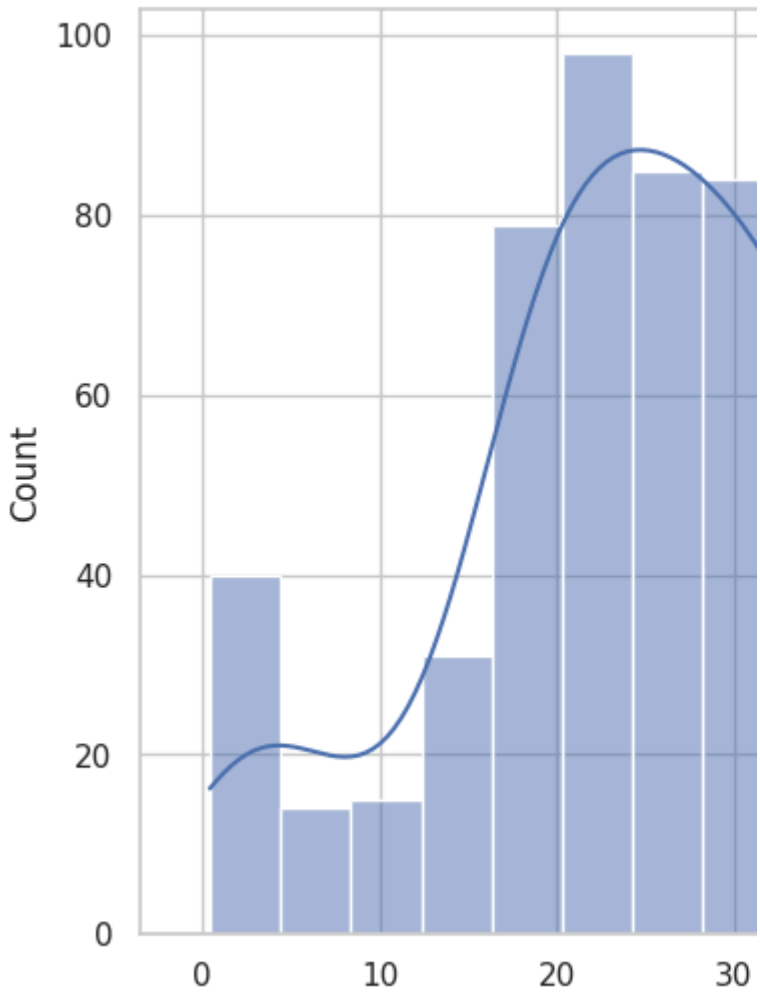
Explain code Table of cc •••

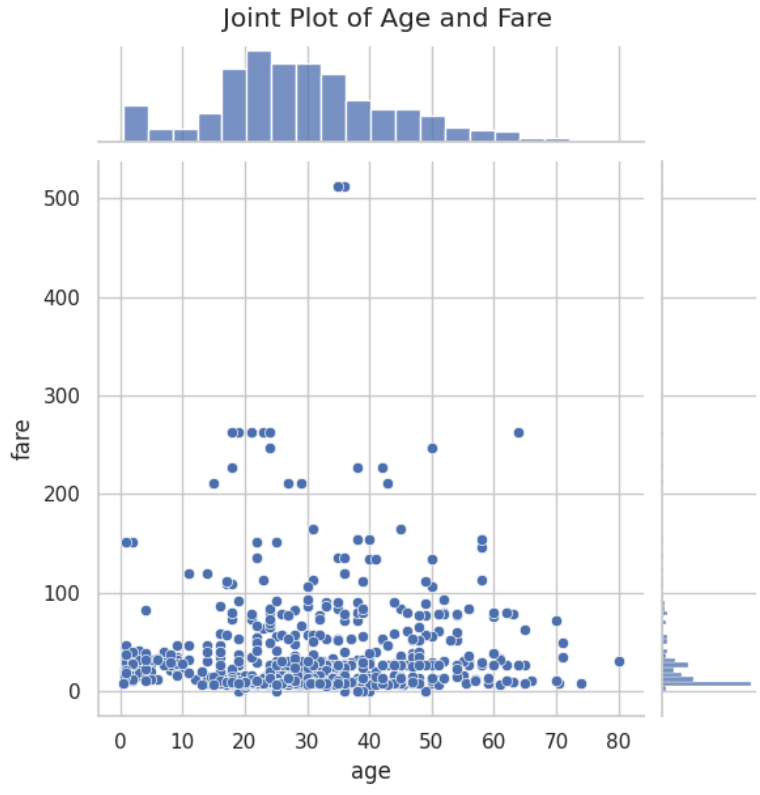
New section

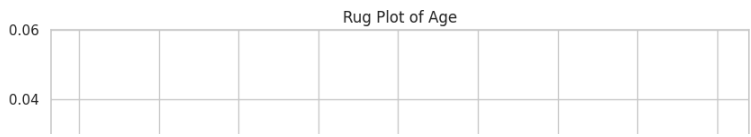

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load the Titanic dataset (seaborn has a built-ir
df = sns.load_dataset('titanic')

# Set the seaborn style for better visualization
sns.set(style="whitegrid")

# Dist-Plot for Age (since Age is continuous)
plt.figure(figsize=(10, 6))
sns.histplot(df['age'].dropna(), kde=True, bins=20
plt.title("Dist-Plot of Age")
plt.show()

# Joint Plot for Age and Fare
plt.figure(figsize=(10, 6))
sns.jointplot(x='age', y='fare', data=df, kind='sc
plt.suptitle("Joint Plot of Age and Fare", y=1.02)
plt.show()

# Rug Plot for Age
plt.figure(figsize=(10, 6))
sns.rugplot(df['age'].dropna())
plt.title("Rug Plot of Age")
plt.show()

# Bar Plot of Average Age by Class
plt.figure(figsize=(10, 6))
sns.barplot(x='pclass', y='age', data=df)
plt.title("Bar Plot of Average Age by Class")
plt.show()

# Count Plot for Survival (Survived column)
plt.figure(figsize=(10, 6))
sns.countplot(x='survived', data=df)
plt.title("Count Plot of Survival")
plt.show()

# Box Plot for Age by Survival
plt.figure(figsize=(10, 6))
sns.boxplot(x='survived', y='age', data=df)
plt.title("Box Plot of Age by Survival")
plt.show()

# Violin Plot for Age by Survival
plt.figure(figsize=(10, 6))
sns.violinplot(x='survived', y='age', data=df)
```

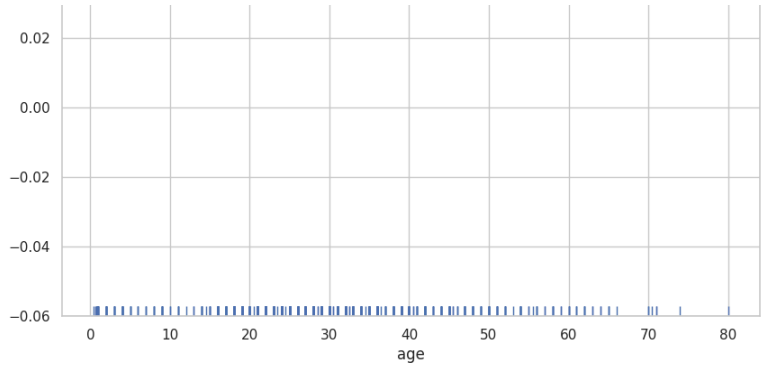
```
plt.title("Violin Plot of Age by Survival")
plt.show()

# Strip Plot for Age by Class
plt.figure(figsize=(10, 6))
sns.stripplot(x='pclass', y='age', data=df, jitte
plt.title("Strip Plot of Age by Class")
plt.show()

# Swarm Plot for Age by Class
plt.figure(figsize=(10, 6))
sns.swarmplot(x='pclass', y='age', data=df)
plt.title("Swarm Plot of Age by Class")
plt.show()

# Heatmap of the correlation matrix
numerical_df = df.select_dtypes(include=['number']
corr = numerical_df.corr()  # Compute correlations
plt.figure(figsize=(10, 6))
sns.heatmap(corr, annot=True, cmap="coolwarm", fmt
plt.title("Heatmap of Feature Correlations")
plt.show()

# Cluster Map of the correlation matrix
plt.figure(figsize=(10, 6))
sns.clustermap(corr, annot=True, cmap="coolwarm",
plt.title("Cluster Map of Feature Correlations")
plt.show()
```



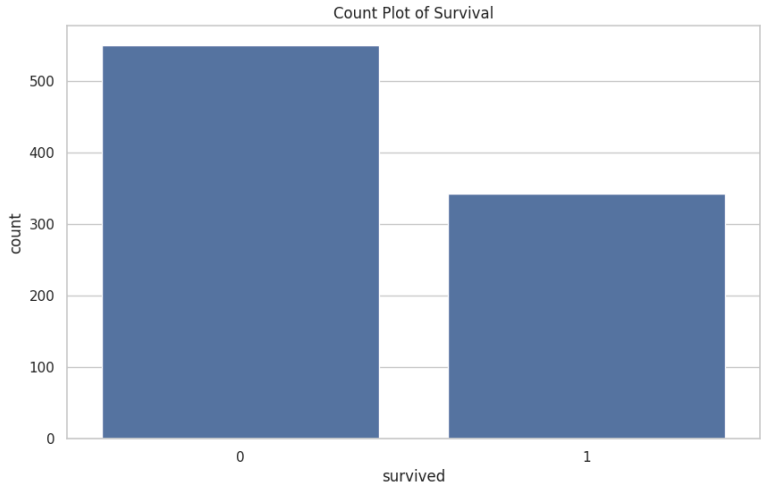

```
<Figure size 1000x600 with 0 Axes>
```

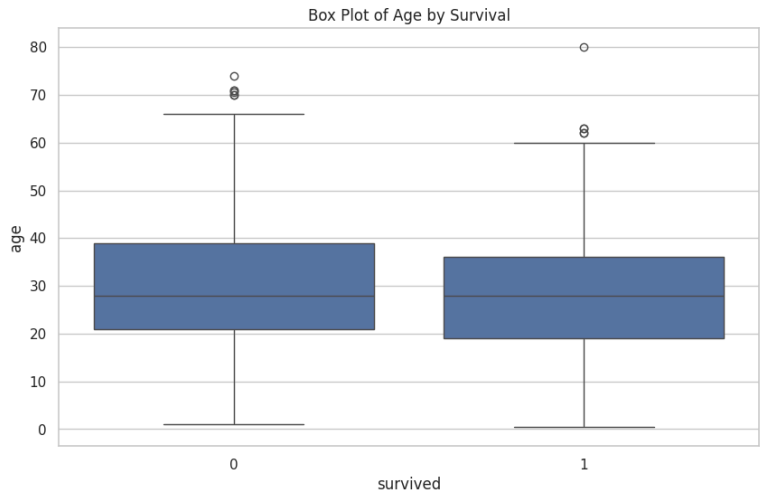




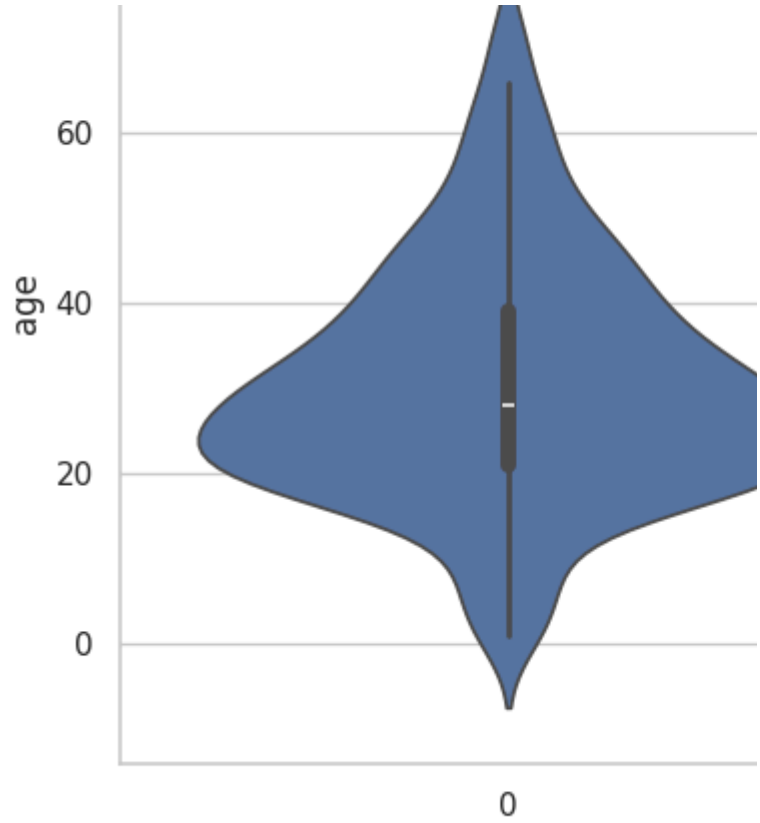

0.02
0.00
−0.02
−0.04
−0.06
0
10
20
30
40
50
60
70
80
age

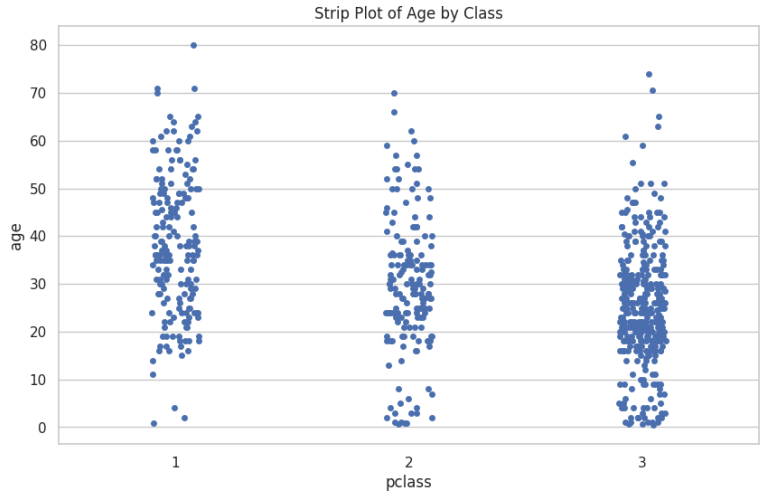

Bar Plot of Average Age by Class
40
35
30
25
20
15
10
5
0
age
1
2
3
pclass

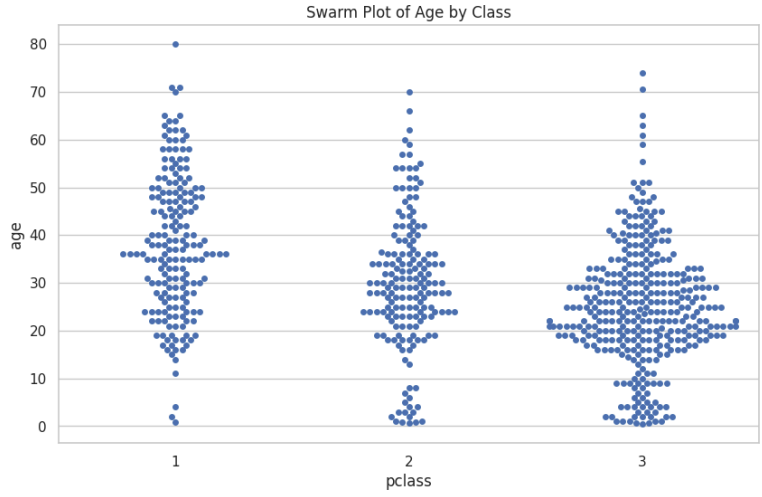

Count Plot of Survival
500
400
300
200
100
0
count
0
1
survived

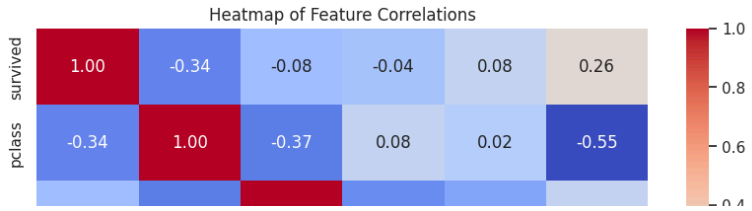

Box Plot of Age by Survival
80
70
60
50
40
30
20
10
0
age
0
1
survived

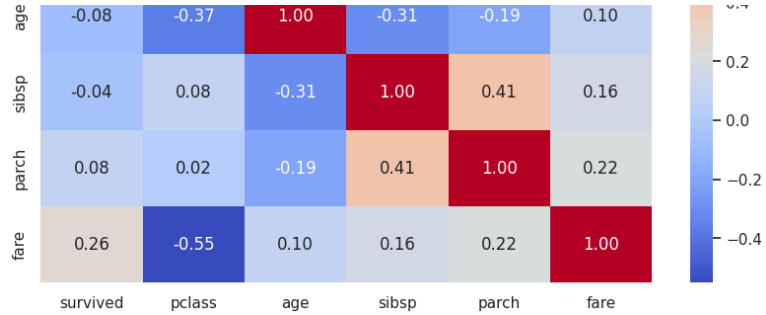

Violin
80


60
40
20
0
age
0


Strip Plot of Age by Class
80
70
60
50
40
30
20
10
0
age
1
2
3
pclass


Swarm Plot of Age by Class
80
70
60
50
40
30
20
10
0
age
1
2
3
pclass


Heatmap of Feature Correlations
survived
pclass
1.00
-0.34
-0.08
-0.04
0.08
0.26
-0.34
1.00
-0.37
0.08
0.02
-0.55
1.0
0.8
0.6



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