**Data visualization assignment**

**Code:s**

import pandas as pd

import seaborn as sns

import matplotlib.pyplot as plt

# Load Titanic dataset

df = sns.load\_dataset('titanic')

# Display first few rows

display(df.head())

# Set theme for seaborn

sns.set\_theme(style="whitegrid")

# Bar plot: Survival count by class

plt.figure(figsize=(8, 5))

sns.countplot(data=df, x='class', hue='survived')

plt.title('Survival Count by Class')

plt.xlabel('Passenger Class')

plt.ylabel('Count')

plt.legend(title='Survived', labels=['No', 'Yes'])

plt.show()

# Histogram: Age distribution

plt.figure(figsize=(8, 5))

sns.histplot(df['age'].dropna(), bins=30, kde=True)

plt.title('Age Distribution of Titanic Passengers')

plt.xlabel('Age')

plt.ylabel('Count')

plt.show()

# Box plot: Fare distribution by class

plt.figure(figsize=(8, 5))

sns.boxplot(data=df, x='class', y='fare')

plt.title('Fare Distribution by Class')

plt.xlabel('Passenger Class')

plt.ylabel('Fare')

plt.show()

# Pie chart: Survival percentage

survival\_counts = df['survived'].value\_counts()

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

plt.pie(survival\_counts, labels=['Did not survive', 'Survived'], autopct='%1.1f%%', colors=['red', 'green'])

plt.title('Survival Percentage')

plt.show()

# Pair plot: Correlation between features

sns.pairplot(df[['age', 'fare', 'pclass', 'survived']].dropna(), hue='survived')

plt.show()

# Heatmap: Correlation matrix

plt.figure(figsize=(8, 5))

sns.heatmap(df.corr(), annot=True, cmap='coolwarm', linewidths=0.5)

plt.title('Feature Correlation Heatmap')

plt.show()