import seaborn as sns

import plotly.express as px

# Q1: Scatter plot for Titanic dataset

titanic = sns.load\_dataset("titanic")

scatter\_plot = px.scatter(

titanic,

x="age",

y="fare",

title="Scatter Plot of Age vs Fare in Titanic Dataset",

labels={"age": "Age", "fare": "Fare"}

)

scatter\_plot.show()

# Q2: Box plot for Tips dataset

tips = px.data.tips()

box\_plot = px.box(

tips,

x="day",

y="total\_bill",

title="Box Plot of Total Bill by Day",

labels={"day": "Day", "total\_bill": "Total Bill"}

)

box\_plot.show()

# Q3: Histogram for Tips dataset

histogram\_plot = px.histogram(

tips,

x="sex",

y="total\_bill",

pattern\_shape="smoker",

color="day",

title="Histogram of Total Bill by Sex with Smoker and Day",

labels={"sex": "Gender", "total\_bill": "Total Bill"}

)

histogram\_plot.show()

# Q4: Scatter matrix plot for Iris dataset

iris = px.data.iris()

scatter\_matrix\_plot = px.scatter\_matrix(

iris,

dimensions=["sepal\_length", "sepal\_width", "petal\_length", "petal\_width"],

color="species",

title="Scatter Matrix Plot of Iris Dataset",

labels={"species": "Species"}

)

scatter\_matrix\_plot.show()

# Q5: Explanation and distplot for any dataset

# A distplot is a distribution plot that shows the distribution of a variable. Plotly express does not

# have a direct distplot function but can create histograms or density plots.

# Example: Distplot for Iris dataset (sepal\_length)

distplot = px.histogram(

iris,

x="sepal\_length",

marginal="box",

title="Distplot of Sepal Length in Iris Dataset",

labels={"sepal\_length": "Sepal Length"}

)

distplot.show()