EDS ASSIGNMENT=5 **bold text**

NAME= Sahil Ingale

ROLL NO = 123

PRN = 202201060003 **bold text**

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

# Load the Iris dataset
iris_df = sns.load_dataset('iris')

# Identify 10 random samples of grains
grains = iris_df.sample(10)

# Create an interactive dashboard
fig, axes = plt.subplots(nrows=5, ncols=2, figsize=(12, 16))

# Plot 1 - Sepal Length Distribution
sns.histplot(data=iris_df, x="sepal_length", hue="species", ax=axes[0, 0])
axes[0, 0].set_title("Sepal Length Distribution")
axes[0, 0].legend()

# Plot 2 - Sepal Width Distribution
sns.histplot(data=iris_df, x="sepal_width", hue="species", ax=axes[0, 1])
axes[0, 1].set_title("Sepal Width Distribution")
axes[0, 1].legend()

# Plot 3 - Petal Length Distribution
sns.histplot(data=iris_df, x="petal_length", hue="species", ax=axes[1, 0])
axes[1, 0].set_title("Petal Length Distribution")
axes[1, 0].legend()

# Plot 4 - Petal Width Distribution
sns.histplot(data=iris_df, x="petal_width", hue="species", ax=axes[1, 1])
axes[1, 1].set_title("Petal Width Distribution")
axes[1, 1].legend()

# Plot 5 - Sepal Length vs. Sepal Width
sns.scatterplot(data=iris_df, x="sepal_length", y="sepal_width", hue="species", ax=axes[2, 0])
axes[2, 0].set_title("Sepal Length vs. Sepal Width")
axes[2, 0].legend()

# Plot 6 - Sepal Length vs. Petal Length
sns.scatterplot(data=iris_df, x="sepal_length", y="petal_length", hue="species", ax=axes[2, 1])
axes[2, 1].set_title("Sepal Length vs. Petal Length")
axes[2, 1].legend()

# Plot 7 - Sepal Length vs. Petal Width
sns.scatterplot(data=iris_df, x="sepal_length", y="petal_width", hue="species", ax=axes[3, 0])
axes[3, 0].set_title("Sepal Length vs. Petal Width")
axes[3, 0].legend()

# Plot 8 - Sepal Width vs. Petal Length
sns.scatterplot(data=iris_df, x="sepal_width", y="petal_length", hue="species", ax=axes[3, 1])
axes[3, 1].set_title("Sepal Width vs. Petal Length")
axes[3, 1].legend()

# Plot 9 - Sepal Width vs. Petal Width
sns.scatterplot(data=iris_df, x="sepal_width", y="petal_width", hue="species", ax=axes[4, 0])
axes[4, 0].set_title("Sepal Width vs. Petal Width")
axes[4, 0].legend()

# Plot 10 - Petal Length vs. Petal Width
sns.scatterplot(data=iris_df, x="petal_length", y="petal_width", hue="species", ax=axes[4, 1])
axes[4, 1].set_title("Petal Length vs. Petal Width")
axes[4, 1].legend()

# Adjust subplot spacing
plt.tight_layout()

# Show the interactive dashboard
plt.show()
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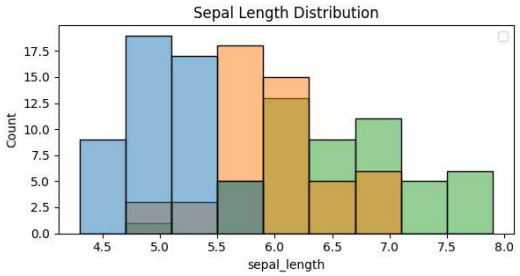

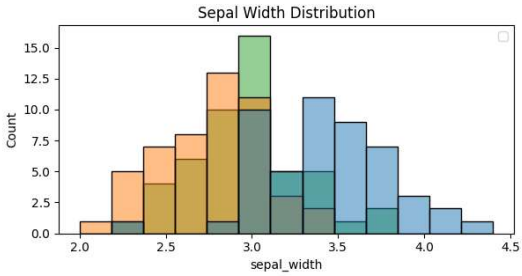

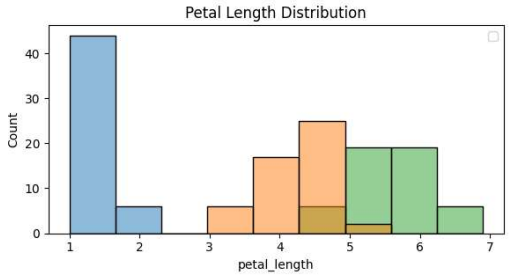

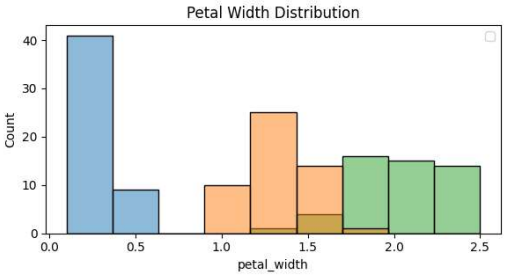

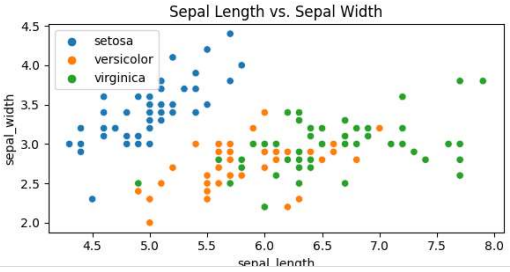

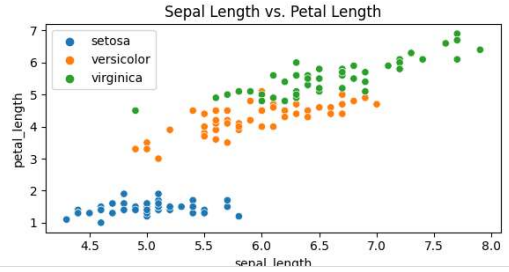

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