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Roll No.: 768

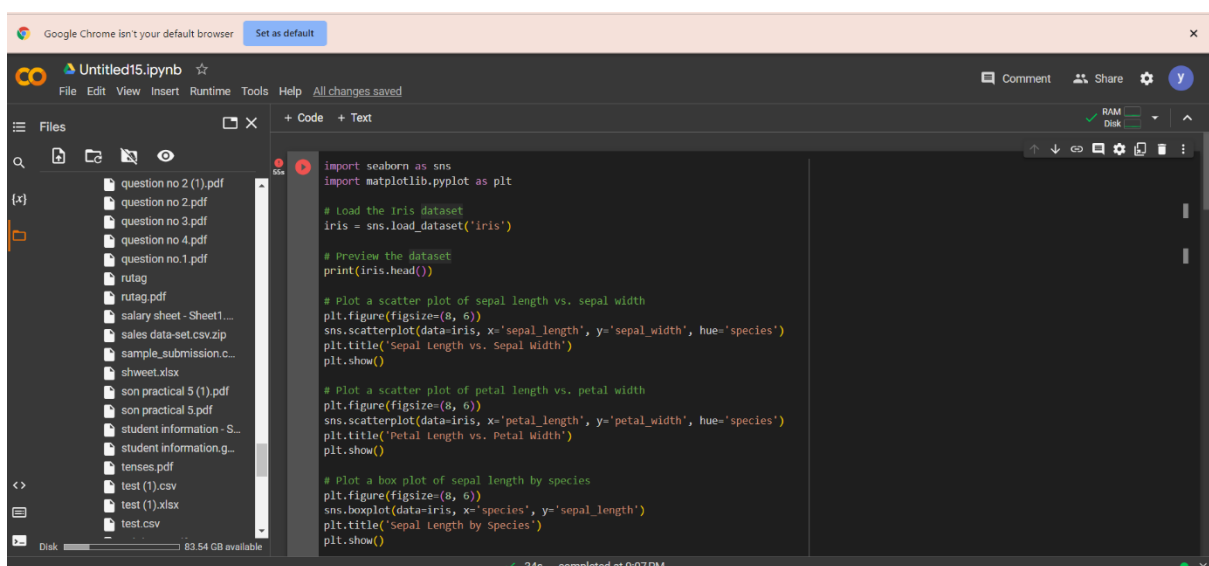
PRN: 202201050035

DIV : G4

Problem Statement:

Select any one real-life dataset. Perform data analysis. Identify 10 grains for a given dataset. Develop an interactive dashboard using the matplotlib/Seaborn library.

Code:



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

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

# Preview the dataset
print(iris.head())

# Plot a scatter plot of sepal length vs. sepal width
plt.figure(figsize=(8, 6))
sns.scatterplot(data=iris, x='sepal_length', y='sepal_width', hue='species')
plt.title('Sepal Length vs. Sepal Width')
plt.show()

# Plot a scatter plot of petal length vs. petal width
plt.figure(figsize=(8, 6))
sns.scatterplot(data=iris, x='petal_length', y='petal_width', hue='species')
plt.title('Petal Length vs. Petal Width')
plt.show()

# Plot a box plot of sepal length by species
plt.figure(figsize=(8, 6))
sns.boxplot(data=iris, x='species', y='sepal_length')
plt.title('Sepal Length by Species')
plt.show()
```

```
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# Interactive Dashboard
while True:
    print("\nInteractive Dashboard:")
    print("1. Sepal Length vs. Sepal Width")
    print("2. Petal Length vs. Petal Width")
    print("3. Sepal Length by Species")
    print("4. Petal Width by Species")
    print("5. Exit")

    choice = input("Enter your choice (1-5): ")

    if choice == '1':
        plt.figure(figsize=(8, 6))
        sns.scatterplot(data=iris, x='sepal_length', y='sepal_width', hue='species')
        plt.title("Sepal Length vs. Sepal Width")
        plt.show()

    elif choice == '2':
        plt.figure(figsize=(8, 6))
        sns.scatterplot(data=iris, x='petal_length', y='petal_width', hue='species')
        plt.title("Petal Length vs. Petal Width")
        plt.show()

    elif choice == '3':
        plt.figure(figsize=(8, 6))
        sns.boxplot(data=iris, x='species', y='sepal_length')
        plt.title("Sepal Length by Species")
        plt.show()

    elif choice == '4':
        plt.figure(figsize=(8, 6))
```

OUTPUT:

