**Task No 3**

**Python Programming**

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**Code:**

import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sns

# Load the dataset

url = "https://raw.githubusercontent.com/mwaskom/seaborn-data/master/iris.csv"

iris = pd.read\_csv(url)

# Display the first few rows of the dataset

print(iris.head())

# Basic data exploration

print("\nBasic Information about the dataset:")

print(iris.info())

print("\nSummary Statistics:")

print(iris.describe())

print("\nDistribution of species:")

print(iris['species'].value\_counts())

# Visualize the data

# Pairplot

sns.pairplot(iris, hue='species')

plt.suptitle('Pairplot of Iris Dataset', y=1.02)

plt.show()

# Boxplot

plt.figure(figsize=(12, 6))

sns.boxplot(x='species', y='sepal\_length', data=iris)

plt.title('Boxplot of Sepal Length by Species')

plt.show()

# Violin plot

plt.figure(figsize=(12, 6))

sns.violinplot(x='species', y='petal\_length', data=iris)

plt.title('Violin Plot of Petal Length by Species')

plt.show()

# Correlation heatmap

plt.figure(figsize=(8, 6))

corr = iris.corr()

sns.heatmap(corr, annot=True, cmap='coolwarm', fmt=".2f")

plt.title('Correlation Heatmap')

plt.show()

**Output:**









