NEXUS TASK-1
DATA SCIENCE

Importing Libraries:

matplotlib.pyplot: Used for creating visualizations.
seaborn: Provides a high-level interface for drawing attractive statistical graphics.
sklearn.datasets.load_iris: Loads the Iris dataset.
pandas: A data manipulation library used to create DataFrames for better data handling.
Loading Iris Dataset:

iris = load_iris(): Loads the Iris dataset.
X = iris.data: Features of the dataset.
y = iris.target: Target variable (class labels).
Creating a DataFrame:

iris_df = pd.DataFrame(data=X, columns=iris.feature_names): Converts features to a Pandas DataFrame.
iris_df['target'] = y: Adds the target variable to the DataFrame.
Exploring Feature Distributions with Histograms:

iris_df.hist(bins=20, figsize=(12, 8)): Displays histograms for each feature.
plt.suptitle("Distribution of Features in Iris Dataset"): Adds a super title to the entire set of histograms.
Exploring Relationships with Pair Plots:

sns.pairplot(iris_df, hue='target', palette='viridis'): Plots pairwise relationships and color points by target class.
plt.suptitle("Pair Plot of Iris Dataset"): Adds a super title to the pair plot.
Exploring Feature Distributions with Box Plots:

sns.boxplot(x='target', y='sepal length (cm)', data=iris_df): Box plot for sepal length by target class.
sns.boxplot(x='target', y='petal width (cm)', data=iris_df): Box plot for petal width by target class.
Each box plot is given a title using plt.title.