# Importing Dependencies

import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

import seaborn as sns

import warnings

warnings.filterwarnings('ignore')

iris.shape

iris.describe()

iris.groupby('species').mean()

sns.scatterplot(x='sepal\_length', y='sepal\_width', hue='species', data=iris)

plt.show()

sns.lineplot(data=iris.drop(['species'], axis=1))

plt.show()

iris.plot.hist(subplots=True, layout=(2,2), figsize=(10, 10), bins=20)

plt.show()

sns.heatmap(iris.corr(), annot=True)

plt.show()

g **=** sns.FacetGrid(iris, col**=**'species')

g **=** g.map(sns.kdeplot, 'sepal\_length')

sns.pairplot(iris)

iris.hist(color= 'mediumpurple' ,edgecolor='black',figsize=(10,10))

plt.show()

.corr().style.backgririsound\_gradient(cmap='coolwarm').set\_precision(2)

from sklearn.model\_selection import train\_test\_split

from sklearn import metrics

from sklearn.metrics import accuracy\_score

x = iris.drop('species', axis=1)

y= iris.species

x\_train, x\_test, y\_train, y\_test = train\_test\_split(x, y, test\_size=0.4, random\_state=5)

from sklearn.neighbors import KNeighborsClassifier

knn = KNeighborsClassifier(n\_neighbors=5, p=2, metric='minkowski')

knn.fit(x\_train, y\_train)

knn.score(x\_test, y\_test)

from sklearn.linear\_model import LogisticRegression

logreg = LogisticRegression()

logreg.fit(x, y)

y\_pred = logreg.predict(x)

print(metrics.accuracy\_score(y, y\_pred))

from sklearn.svm import SVC

svm = SVC(kernel='rbf', random\_state=0, gamma=.10, C=1.0)

svm.fit(x\_train, y\_train)

svm.score(x\_test, y\_test)

from sklearn.tree import DecisionTreeClassifier

dtree = DecisionTreeClassifier()

dtree.fit(x\_train, y\_train)

dtree.score(x\_test, y\_test)