# Import necessary modules

from sklearn.neighbors import KNeighborsClassifier

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

from sklearn.datasets import load\_iris

import numpy as np

import matplotlib.pyplot as plt

irisData = load\_iris()

# Create feature and target arrays

X = irisData.data

y = irisData.target

# Split into training and test set

X\_train, X\_test, y\_train, y\_test = train\_test\_split(

X, y, test\_size = 0.2, random\_state=42)

neighbors = np.arange(1, 9)

train\_accuracy = np.empty(len(neighbors))

test\_accuracy = np.empty(len(neighbors))

# Loop over K values

for i, k in enumerate(neighbors):

knn = KNeighborsClassifier(n\_neighbors=k)

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

# Compute training and test data accuracy

train\_accuracy[i] = knn.score(X\_train, y\_train)

test\_accuracy[i] = knn.score(X\_test, y\_test)

# Generate plot

plt.plot(neighbors, test\_accuracy, label = 'Testing dataset Accuracy')

plt.plot(neighbors, train\_accuracy, label = 'Training dataset Accuracy')

plt.legend()

plt.xlabel('n\_neighbors')

plt.ylabel('Accuracy')

plt.show()

Output:

