KNN Classifier Iris Dataset Instructions

Preprocessing

a. Load the dataset using pandas or use the command:
from sklearn.datasets import load_iris
b. Perform an 70/20/10 split of the data: 70% for training and 20% for validation and 10% for post validation testing.

Implement the KNN Model

a. Import the necessary libraries: numpy, pandas, sklearn.
b. Use KNeighborsClassifier from sklearn.neighbors.
c. Train the KNN model on the training data. You can start with k=3 as the number of neighbors, but experiment with different values of k (e.g., 1, 5, 7) to see how it affects performance.

Evaluate the Model

a. Predict the classes of the test data.
b. Calculate accuracy using accuracy_score from sklearn.metrics.
c. Repeat the model training after scaling the features using StandardScaler from sklearn.preprocessing.
d. Compare the performance of the model before and after scaling.