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import pandas as pd
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import accuracy_score, classification_report

iris = load_iris()

X = iris.data
y = iris.target

X_train, X_test, y_train, y_test = train_test_split(
    X, y, test_size=0.25, random_state=42
)

knn = KNeighborsClassifier(n_neighbors=5)
knn.fit(X_train, y_train)

KNeighborsClassifier()

y_pred = knn.predict(X_test)

print("Accuracy:", accuracy_score(y_test, y_pred))
print("\nClassification Report:\n",
      classification_report(y_test, y_pred, zero_division=0))

```

Accuracy: 1.0

Classification Report:

	precision	recall	f1-score	support
0	1.00	1.00	1.00	15
1	1.00	1.00	1.00	11
2	1.00	1.00	1.00	12
accuracy			1.00	38
macro avg	1.00	1.00	1.00	38
weighted avg	1.00	1.00	1.00	38

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# New flower: Sepal length, Sepal width, Petal length, Petal width
new_sample = [[5.1, 3.5, 1.4, 0.2]]

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prediction = knn.predict(new_sample)
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print("Predicted Flower:", iris.target_names[prediction[0]])
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Predicted Flower: setosa