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import numpy as np
from sklearn.datasets import load_iris
from \ sklearn.model\_selection \ import \ train\_test\_split
from collections import Counter
iris = load_iris()
X, y = iris.data, iris.target
 \textit{X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42) } 
class KNN:
    def __init__(self, k=3):
        self.k = k
    def fit(self, X, y):
        self.X = X
        self.y = y
    def _predict(self, x):
        dists = np.array([np.linalg.norm(Xinst - x) for Xinst in self.X])
        k_indices = np.argsort(dists)[0:self.k]
        k_labels = [self.y[i] for i in k_indices]
        c = Counter(k_labels)
        return c.most_common(1)[0][0]
    def predict(self, X):
        return np.array([self._predict(x) for x in X])
knn = KNN(k=3)
knn.fit(X_train, y_train)
y_pred = knn.predict(X_test)
print(np.mean(y_pred == y_test))
```

→ 1.0