import pandas as pd

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

from sklearn.preprocessing import StandardScaler

from sklearn.neighbors import KNeighborsClassifier

data = pd.read\_csv("pgm4.csv")

X, y = data.iloc[:, :-1], data.iloc[:, -1]

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, stratify=y, random\_state=42)

scaler = StandardScaler().fit(X\_train)

X\_train, X\_test = scaler.transform(X\_train), scaler.transform(X\_test)

for k in [1,3,5,7,9]:

for w in ['uniform','distance']:

acc = KNeighborsClassifier(k, weights=w).fit(X\_train, y\_train).score(X\_test, y\_test)

print(f"k={k}, {'Weighted' if w=='distance' else 'Regular'} Accuracy: {acc:.4f}")