from \_\_future\_\_ import print\_function

import numpy as np

import matplotlib.pyplot as plt

from scipy.spatial.distance import cdist

from mpl\_toolkits import mplot3d

X = np.array([[6,9,8,6,8,6,7,5,7,9,2,8,3,3,7,9,7,7,4,1],[5,9,3,4,5,5,8,4,3,9,5,8,9,9,6,7,4,9,9,3],[9,8,7,3,4,9,8,6,4,7,3,6,4,9,9,6,4,5,7,4]]).T

X = X + (5/10)

K=3

def kmeans\_display(X, label):

K = np.amax(label) + 1

X0 = X[label == 0, :]

X1 = X[label == 1, :]

X2 = X[label == 2, :]

ax = plt.axes(projection='3d')

ax.scatter3D(X0[0],X0[1],X0[2])

ax.scatter3D(X1[0],X1[1],X1[2])

ax.scatter3D(X2[0],X2[1],X2[2])

#ax.scatter3D(label

ax.set\_xlabel("Toan")

ax.set\_ylabel("Ly")

ax.set\_zlabel("Hoa")

#CS = plt.contour(Xg, Yg, Z, 100)

plt.show()

from sklearn.cluster import KMeans

model = KMeans(n\_clusters=3, random\_state=0).fit(X)

print("Centers found by scikit-learn:")

print(model.cluster\_centers\_)

pred\_label = model.predict(X)

kmeans\_display(X, pred\_label)

