

```

import numpy as np

def kMeans(data, k, maxloop):
    currentcentroids = kMeansPP(data, k)
    previouscentroids = np.full(currentcentroids.shape, 0)
    labels = None
    iteration = 0
    while iteration != maxloop and not np.allclose(previouscentroids,
                                                    currentcentroids, rtol=0.0001):
        previouscentroids = currentcentroids
        data, currentcentroids = kMeansStep(data, previouscentroids, k)
        notcentroids = np.isnan(currentcentroids).any(axis=1)
        currentcentroids[notcentroids] = previouscentroids[notcentroids]
        iteration += 1
    ### calc labels
    label = []
    for x in data:
        distances = np.array([np.linalg.norm(x-centroid, axis=0) for
                               centroid in currentcentroids.tolist()])
        mindist = np.min(distances, axis=0)
        label.append(distances.tolist().index(mindist))
    return currentcentroids, label

```