import random

import math

import operator

def getNeighbors(trainingSet,testInstance,k):

distances=[]

length=4

for x in range(len(trainingSet)):

dist=euclideanDistance(testInstance,trainingSet[x],length)

distances.append((trainingSet[x],dist))

distances.sort(key=operator.itemgetter(1))

neighbors=[]

for x in range(k):

neighbors.append(distances[x][0])

return neighbors

def convert\_str\_to\_float(x,n):

for i in range(n):

x[i]=float(x[i])

return x

def load\_split\_data(split,training\_data=[],test\_data=[]):

for line in open("iris.txt","r"):

temp = convert\_str\_to\_float(line[0:-1].split(','),4)

if random.random()<=split:

training\_data.append(temp)

else:

test\_data.append(temp)

return(training\_data,test\_data)

def euclideanDistance(instance1,instance2,length):

distance=0

for x in range(length):

distance+=pow((instance1[x]-instance2[x]),2)

return math.sqrt(distance)

