dimensite a program of cluster analysis using simple K-mean's algorithm python programming Lamuss. K-mean's algorithm python programming language.

Mil shear

objectives:

cluster analysis: Cluster analysis is a statistical method for processing data. It works by organizing items into groups, or clusters on the basis of how closely associated they are.

k-mean's algorithmisk-means is a simple two steps clustering process. The first step is cluster assignment and the second one is the move centroid step. However, this unsupervised algorithm can easily create implement and handle mil tille (clusters of cti massive datasets.

K-means Algorithm using python programming import numpy as no (001-1000) pribange I dalk that

import matplotlib-pyplot as mtp

import pandas as pd

aataset = pd. read_csv & Icontent | Sample_data | mail_customers. CSV')

X=dataset-iloc [., [3,4]]. Values

from Sklearn cluster import Kmeans

Mcss List=[]

for i in range (1,11):

kmeans = kmeans (n_clusters = i, init = 'k-means++') vandom-state=42)

Kmeans-fit(x) wcss_list.append(kmeans.inertia-) - - 000001

mtp.plot (range (i,11), wcss_list)

Mtp. title (The Elbow method Graph') mtp. Xlabel ('Number of clusters (K)')

Intp. Ylabel ('Wess_list')

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Mtp.show()
Kmeans = Kmeans (n_ blusters = 5, init=' K-means ++', random_state
Kriscons algorithm billion (345 de maine de grandis
Y-Predict=Kmeans.fit-predict(x)
mtp-scatter(x[4-predict=0,0], x[4-predict=0,1], S=100, C=bly
             -label='clusteri')
mtp-scatter(x[Y-predict=1,0], x[Y-predict=1,1], s=100, C= green
              label='cluster2')
mtp.scatter (x [4-predict=2,0], x [4-predict=2,1],5=100,C='red,
             1abel='c luster 3')
mtp. scatter ( kmeans cluster-centers-[:,0], kmeans cluster-
Centers_[:, 1], S=300, C= Yellow; Label='centrois
mtp title ( clusters of clustomers )
mtp-xlabel (nnnual Income(K&1))
mtp. Ylabel Cospending score (1-100)") an yaman score
                tape it medplotlib equiet as mip
mtp.legend()
                                  import paridas ax pa
mtp.show()
         trainset = nd read > sv C /content/Sample date
Output:
                The Elbow Method Graph
                  from Skleam Elister import kmeans
                                         Micss List : [3
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  1.4
       Kineans - Kmeans (n - clusters = 6 inite = 14
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         Vandom-Staty-42)
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         MCSS-11st appendixingues. inerlia
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clusters of customels 100 Spending score(1-100) • cluster 1 60 cluster 2 · cluster 3 cluster 5 20 Centroid 0 20 60 80 100 120 Annual Income (K\$) - PANTIN WARTON WILLIAM der North