	Page No.
Assignation	Date
Assignment A4	
Jitle: KTleans Chustering (1)	
Prollem statement:	Dean calvery bus,
grant of the state of the	Will could be a like
We have given a collection e	A d Oil MAIL
P1=[0.1,0.6] P2 = [0.15,10,71]	8 Points
R = [0.16, 0.85], R = [0.2, 0.3]	3 = [p. 06, 0.9]
Po = [0:24 0:17] Po [0:2,0:3]	P6 = [0.25, U.5]
P= [0.24, 0.1], P8 - [0.3, 0.2]	TPS form KTleans
clustering with initial (ntroids as m1-pi =
dustry # 12-01 and im2=	P8 =1) Cluster # 2 = C2
Answer the following	Mak V High
THE SALEY TO THE SALE OF THE S	P. M.
MAIN CURTER OF	des Po I cluster around
2) What is The Popular	ation of cluster around
ment wis What is updated wa	
de la	me and mz
the dead of the last	Lange Surveyor
Algertice. The resolution has	1 K Judge of Chapman
Objective: To under Stand hou algorithm works on the gi	a data st
acquylum wighes on the	y/y calazi
Out come:	
Atidate will be all	नीय: १०१
in a Point K-Image	ns clustering algorithm.
- (mp xevina · vices)	
Software and Maxdware require	nuts and a second
The state of the s	17 t
13/is/i7 Gy thit Process or Editor - gedit / Edipse. Joft wave Jupytry. Note	os linux 64 litos
Editor - gedit / Edipse.	CARLO CANADA
10st ware - Jupytry Note	look / Python.
1 C	V

THON INCOME INFORMATION IN STATE OF THE STAT Kineans clustrying is one of the simplest and popular un supervised machine learning agon thins. Typically unsupervised algorithm make inferences from datasets using Enoun of stateled outcomes: We define a target number kin which refers to the A controid is the imaginery con real location representing the antrolog of the cluster. Every dats point is allocated to lack of the dusters through reducing the inclustor In other words the Kircens ralgorithm widehipies Romannel of Outroids and then allocates every data point to the nearest cluster unfile of Respins the Controids as small as possible of range divides Squand enon function given logist 1 in superestance ingre and hast horn ingerthos 11DCi-VjII is the Euclidean of the runi 20 sassary indistance & Between in in the mi and vy . ANTAN Souldan vital. . The second for

1	Page No.
	Algorithmic about
	Algorithmic steps for k-means dustering.
	let x - \(\sigma \) \(\sigma
	data Points
	Ontres and V- 2 VI Ve y Me the set of
	The state of the s
	1) Randomly select 'c' cluster ontre.
	Calablata the distance willtwan lach data
	Point and cluster ontre
	3) Assign the data point to the duster anter
	Musse redistance from the cluster onter is
	minimum of all the cluster centres.
	4) Recalculate the now cluster ontreusing.
	Vi= 1 z mi= L. t = Memrel1 Ci S=L
	ci 5=L
	Marine Points inith cluster
	who has not apointed in the clusterinis
	5) Recalculate the distance seturion: lach
	data point and new Obtained cluster antres. 6) If no data point was reassigned than Stop otherwise repeat from step 30 minimis
	160 Almo data point was reassigned then
	Stop otherwise refleat from estep 30 janus
	Direct and Statistical testing Rothods
	Street and Statistical testing Rothods
	Direct: - It consists of shtimising a criterion,
	Such as cluster sums of squares on the average. The corresponding methods are named ellow method and silhouste The thod.
	1/2000 The corresponding methods are named
	alla, method and Silhouste Tethod.
+	U JAMIN I'V

Page No. Date
2) Statistical tresting Methods: - Consists of
Comparing evidente against null hypothesis. An example is the gap statistic.
An example is the gop statistic.
state of the work of a V house obside also
of Chronical Chronical
Vantages of G-Moons clustering.
1) Fast robust, and lasier to understand.
2) Relatively efficient o (tend)
is the olucts
to still of is # not clusters
d is # dimension of lach object
the this titrations
Jornally R, t, d < <n< td=""></n<>
1=2 12
3) gives lest result when data set is
distinct on well separated from each other.

Advantages of 6-Moons clustering.

distinct on well separated for

Cannot lead to fruitful result.

- 2) Applicable Only whon Mean is defined 1. e fails for atryonical data.
 - 3) Algorithm fails for Mon-linear dataset.

Result-1) which cluster does P6 plans to - m2
2) What is the population of duster around

mz ?... 3
3) what is the updated value of m, and m2
[0.148, 0.712], (0.246, 0.200)] Successfully implemented the 12-means clustering algorithm for the given problem

Statement.