17 (S)	
	NAME: AFNAN ATTAR PRHS F19112003 CLASS - BE COMPIL
	HAME: AFNAN ATTAR PANS FISH 2005
	CHOTECTIC MI FXPERIMENT
co i	what are application of linear regression?
Am	Application of linear regression are as follows:-
7)16	Application of linear regression as a trend, the Trend line: A trend line represents a trend, the
100	components have been accounted for.
TO DECEMBE	components have been accounted for to bacco smoking to Epidemology: Evidence relating to bacco smoking to
	mortality come juoni
*** set	regression analysis. Finance: Capital assest pricing model uses linear regres. The inance is Capital assest pricing model uses linear regres.
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T	
()3	Machine learning: linear regression plays an important role in the subfield of artificial intelligence known
	role in the subficial of artificial
	os machine learning.
	in a linear regression used for linear regression
- \(\mathcal{G}\)	while program implementation and explain their
	purpose?
An	of Coot Functional togget was and and
	as a value to modelic are dictions and tells as now
	accurate are the model's predictions (i) 2 Given as: $J(\theta) = 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1 = $
	Given as: J(0) = 1 5 (ho(x") - y")
	9161619119 1981 1881 1881
	1) loss Function: - sist is say to white in the
	1. Cost function is the sum of losses from each
	data point calculated with loss function
10	2. Given as - least square Error = 1 (ho (x(i)) - y(i))2
Part Con	a keet sing and a age to hereing find stanie is

and the second decision of the second decisio	
*	Python implementation! - Same Kanada amile
	class linear Regression: 1000):
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Marie	and O my atoma C 10 SICh
and the	houset a stransform off all allows
and the	den Pit Coelfrit X NY) (The Court of the Co
1	ALL TO A PART TO
	gelfille no random rand (Atlantis
	Committee to the contract of t
	gelf. w = Belf. learning.
	soil care labora chiona gelf, calc Gradient (xtrain, 1)
3.2	Decomment linear granien is a predominant
description of the second of t	def predict (self x) 1000 (1)
*14 4 1 ** 1 * 1 * 1 * 1 * 1	xpred = op. co (pp. ones (x. shape (o)), x]
13.5 13.5 1	return np. dot (xpred, self. w)
A Parameter	PULLING PERIODS
The state of the s	def calcaracient (self, X, Y):
	return 2/x shape(b) * np. dot(x.T)
* 9 1+	charge Cop. dott (x, self. w) - Y. J. Jong sing
(03)	How does a Random Forest work? what are the
	advantages of random torest methodology:
Anni	Random forest like its name implies consists of
	a large number of individual decision trees that
	operates as an ensemble.
2.	the random forget paits out
	a class prediction and the class with most votes
	becomes our model's prediction.
· [(1) 3.	The fundamental concept behind random forest
	is a simple but powerful one: the wisdom of crowds

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4.	CAKA Audience Poll in KBC). Advantages of random forest methodology:
1) 1)	More accurate than decision tree algorithm.
- <u>i</u> v)	Provides an effective way of handling missing data. Solves issue of overfitting in decision tree. Provides reasonable prediction without hyperparameter tuning.
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*	MAME: AFNAN ATTAR PRN: FIGILLOOS CLASSI-BE COMPT SUBJECT: DY L EXPERIMENT NO. 7
	SUBJECT PARTY ENTERING TO SUBJECT SUBJ
(10	why should we not use the KNN algorithm for
	large datasets?
And	· KNN works well with smaller datasets because it
	is a lazy tearner subsured as in the mains
2	It needs to store all the data and then make
	decision only at run time.
3.	Another thing is that KNN is sensitive to noise,
in.	
92) Is Feature Scaling required for the KNN algorithm?
	Explain with proper justification.
Ans	Mes, feature scaling is required to get better
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	performance of the KNN algorithm.
	For example, imagine a datasets having a number of
	instances and N number of features.
	If one fectures has values ranging between 0 &1
	while other varies from -999 to 999, when these
	values used to calculate euclidean distance will affect
	performance by giving higher weightage,
93	I what do you mean by Hinge loss?
Ans i	In machine learning, the hinge loss is a loss function
	used for training classifiers.
2.	It is used for "maximum-margin" classification
	most notably for support vector machines (SVMS).
3	For an intended output t= ±1 and a classifier
	score y, the hinge loss of prediction y is defined as
	$L(y) = \max(0, 1-t\cdot y).$

ou) what's the "Kernel trick" and how is it useful? Ans I kernel trick is to convert dot product of support vectors to the dot product of mapping function. 2. This trick avoids the need to explicitly map the input data to high-dimension feature space in order to train linear learning algorithms to learn a nonlinear function or decision boundary 8. SVM Optimization problem :- 101 11 change to mit our te also moure Sai -1 & Saia, y, y, (xsvi xsv) some of his est you because pull we convert this noito ititus regoro at partific te redumine a privaced stagetch is suinomini algunexa ros mills of your from flow of to 399, miles asked to colouted encilate such dean distance will age to ectionmance by airmy migher weightage Essal agniti (d' anom not ab tono (a) in machine tearning, the bringe toes is a less function weithing primite with bow and for Marianian - margin consider to be Comme ton support vertor more pileston with rote of bar If the tagtue behasing core up the hinge loss of predictions up and