sight of 2

Lab '4

& Linear Regrenion

Algorithm

D Inglialization ()

· Start with a dataset containing the independent variables (x) a and the independent(y)

· Defining equation y = bot blxx, + bxx --

where . y dependent rariable.

· x, x2 - - xn independent variables

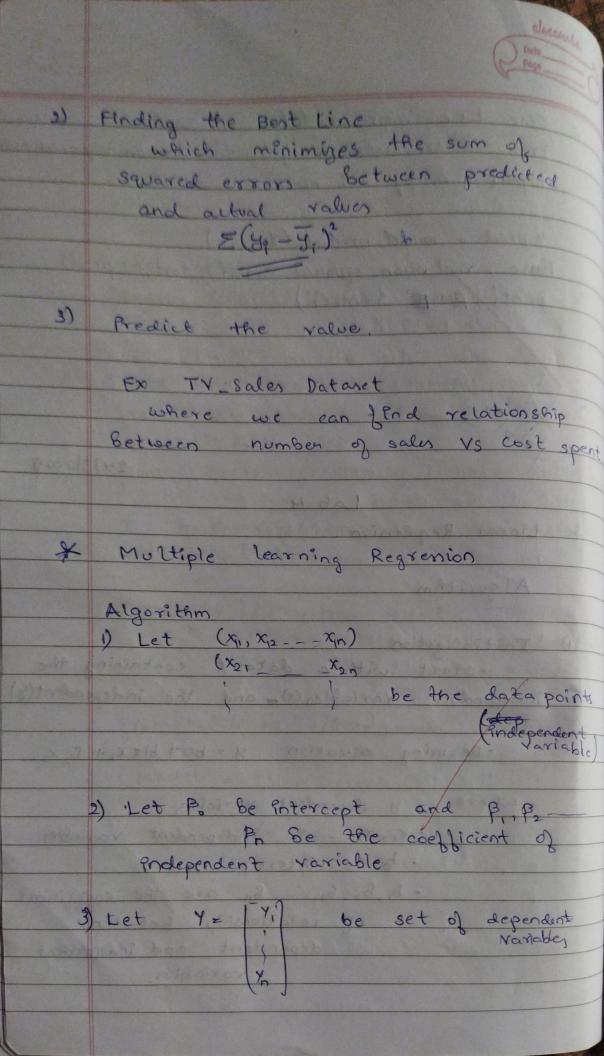
· bo is intercept value

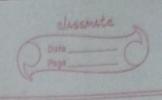
· b, 82, 83. -- , Bn are the coefficient

of relationship between

dependent and independent

variables.





3) After roarranging

$$y = \begin{bmatrix} 1 + x_1 + x_n & + x_1 h \end{bmatrix} \begin{bmatrix} \beta_0 \\ \beta_1 \end{bmatrix} + \begin{bmatrix} \epsilon_1 \\ \epsilon_2 \end{bmatrix}$$

$$\begin{bmatrix} 1 + x_2 + x_2 - x_2 h \\ \beta_1 \end{bmatrix} \begin{bmatrix} \beta_2 \\ \beta_2 \end{bmatrix}$$

$$\begin{bmatrix} 1 + x_1 + x_2 - x_2 h \\ \beta_1 \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \end{bmatrix}$$

where $\beta = ((x^{T} \cdot x)^{T} \cdot x^{T}) y$

4) Obtain values of Bo, B. -- Bo

Ex: Housing dataset where we have crim, IN, INDUS, PTRATIO are dependent upon which we calculate Medr

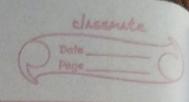
* Logistic Regression.

Algorithm

to map the linear combination of independent and dependent raviables.

y = bo + bix + - - bn xn

P= 9



bo, b, bn Ps coefficients.

- Maximum Likelihood Estimation

Aims to find values of coefficients

that maximize likelihood of observing

the given data.

Set a threshold after calculation

if P> threshold classify as I

else o for Binary classification.

Days