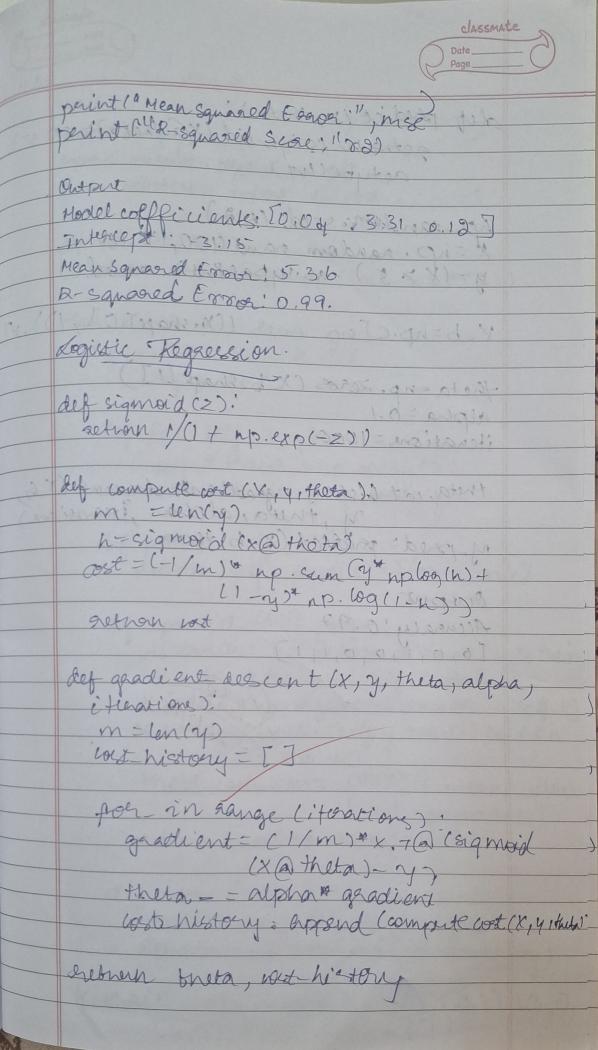
Linear Regression import matplotlib, pyplot as plt def estimate coef (21, 4): n=np.size(2) $m \times = np$, mean(2)mony = np. mean(y) SS ry = np. sum ((n-mx) * (y-my)) 35 an Inp sum ((a mx) ** 3) b 1 = 55 ny 185 note 5-0-my = 6-14mx xetura (50, 67) def plot-negrossion line (n,y,b) plt. scatter (21 4, wolor=11 m" , masker=110", s=30) J-pred = b [0] + b [1] * a plt. plat (m, y-pald, volor = "g")

plt. ylabel ('y')

plt. +i+le ("Lineas Regrossion")

plt. shrow file path = input! 1/ content to marketing a (6211) of = pd . gead (SV(file path) n=df. 2loc [:, 0], values. y = of iloc [:, 1]. values b= estimate colf (n,y) print (f" estimated coefficients: In so= ? b[0]] (nb)=26[7] 300000 to plot regression line (night)

Output b 0 = 7.03 b-1=0.04 Multiple Linear Figurian 19 has standing in 21 Featron 2": [1,2,3,4,5,6,7,8,9,167. 11 Feature 2": [2,3,5,7,(1,13,17,19,23,5 11 Feature 3 11. [3, 6, 9, 12, 15] 18, 21, 24, 27,3 Marget": [5,9,15,22,31,211,53,66,80,96] of = pd. Data Frame (data) x = of the Target 1. J. values = 20 chape (-1, 1) x-np, hstack ((np, ones ((1. shape (07, 10), x)) Beta = np. linalg solve (& Ta x +0.01* np identity Typied=X@theta/ all the state of mse = np. naean (19-y-pread) + + 2) total vasiance = np sum/cy-np meancy) Apomean (y) 1 2) or 2 - explained-vaccionce f total movience print (" Thercept:", beta [0][0]).



det predict 1x, theta);
getroriv raignoid 1x@theta); y = (x > 5) as type (Pint) agreels V.b=np.c[np.ones (CX. shapeTO], D) theta=np. Zeros (X.b. Shape [1])

alpha=0.1

iterations=1000 app. of a 11/1 1/2012 theta, cost history = gradient das cont (x)

y theta, alpha , 9 terasions

Menaly: 0.97

Lo, 0, 1, 0, 0, 1, 1) processions contractions and contractions of the state of a side the way were dieseld