= 2 (1.96) = 3.92 Assignment -3 let consider asample dataset have ilp & olp & number of samples. Develop a simple linear regression, using stochastic Gradient Descent optimizer -> Do manual calculations for 2 iterations compa CPEQ 3 0-2 0-4 0-8 with ist too samples step 1!- m=1, c=-1, m=0.1, epoches=2, ns=2 step 2 Jifter 51

step 3!- sample si

step 4: == = (4; -mn(-c)"

2 = (yi-mai - c) ai (200000) (1000) } 1 = 1 + SE =- (d'-WWI-C)NI CE am = - (B.4 - 0.2 +1)0.2 = -(4-2)0.2 9/12 0/0/3 DE = 0.89 puller o m thing

gc > - (d'-wa1-c) =- (3.8-0.441)

steps = - m om = - nxae

DC= -011x-4.4 DM = -0-1x-0-84 = 0.08y F010+70.44 C= C+AC step6: m=m+2m =-1+0.44 =1 +0.084 5= 1+5= damps { + pie = 1.084 24cp 5 - 14 (2ample 2015) step f :- sample = sample = 2 bans atob stepe! if (sample ins) 2019 go to step9 s=11+ = 1949 - 19 9912 goto step4 (2012935 x 41) N - (0) 93 42 step4: - : 26 = - (42-ma2-c) x2 =- (3.8- (1.084 X 0.4) + 0.56) 0.4 = - (3.9264)0.4 9 12 0100 >-1,57056 steples - campus 1 oc = - (42-10)-10 - 06 - 4900 = - (3.8 - C1.084 x0.W+0.56) = -3,9264 (0/8-8) -= step 5 !- - Jam = - 2/ x3E 18 QC = - N x 9E = 0.157 = 0.3926 = 0.3926 118.8 -

CECTAL SOM Step6 !- m=m+Am 2 -0.56 +0.3926 21-084+0-157 = - 0.167 CHAtin = con - 1). 19000+1stept - sample = 2+1 = 3 step t! - (+ (sample 2 ns) go to step 9 (sur odunes) for iso elac goto step 4 parts of of step 9' - Her= 1+1 =2 Agutz otop step 10 !- If (Ther separties) 9010 step 11 (3-1001-11) = 36. - (3.8- (1.084XOH) + 0.5) -9000 step 300 (pacpes) -steple-3! - sample = 1 1.6-1056 step 4 ! DE = - (y-min, - c)n, sp = 36 (3301 (B.4-1.24×0.2+0.167)0.2 =- (3.319)0.2 42608 == 36 × 1 = = 0.6638 36x 15 - = mp 6966-96 0= = (Al-war-C) 20047-110-2 CP60 = - (3.4 -1.24x0440.187) = - 3-319

step 5: - om = - 3 x 26 Dr. = - Slage 1811-25+0-1x-0.6638 MS. Jay 1.0 - X -3.319 Am = 0.06638 DC 0.3319 C= C+DC step6 - m=m+4m =0.167+0.331 1241 40.0663 = 1.306 + Oille 4 e=0.164 m= 1.306 4/U,12 (79 step + = sample = 1+1=2 34123 aldwar 7 2 days steps !- if coample > ns) 89698 1- if (sample) (s) 2 b days apol goto_step9 else Lons of ob goto step 4 Step 4 '- de = - cyzmaz-c) 2. 240 to 1- 14 (the + chocker) of = - (3.8 - 1.306x0.4 -0.164) ay =-(3.1136) 0.4 $\frac{\partial t}{\partial m} = 1.24$ dops apob 3 th trud. I have with $\frac{\partial c}{\partial c} = -(q_2 - mn_2 - c)$ WE (- 018 CE 0.044 =- (3.8-1.306 x0,4-0.164) de = - 3.1136 ∂c

DC=-2/x9F step5 - sm=- mxde 38880 =201x +3 1136 =- 0-1×1-24 DC= 0.31136 DUC 6.3219 DM = 0.1124 MEMPEN 10=10+00 C = G+OC step 6 - m=m+sm = 0.164 + 0.3 mg 21,306 +0.1124 UN 0 = 3 c = 0.475 m =1.418 step 7 - Sample = 2+1=3 steps !- it (sample) no) (3/1 < mass) \$1 1 goto step 9 page of op refre goto step 4 to das at do step 9!- iter 22+1=3 - (dame chi step to !- If (ter > epoches) PO (131) 2- NOX308-1-8.8) -11 quiz otop P.0 (3811.8). else goto step 3 step 11: - print m, c - (c/2-1818/2-C) m=1.418 C=0.475 (2.8-1306 x0.01-0.164)