

Assignment - 7

18K41A04F7

step 1:- $m = 1$ $c = -1$
learning rate = 0.01

$$x = [0.2, 0.4, 0.6, 0.8, 1.0, 1.2]$$

$$y = [3.4, 3.8, 4.2, 4.6, 5.0, 5.4]$$

epoch = 1

step 2:- $\frac{\partial L}{\partial m} = -(y_1 - mx_1 - c)x_1 + (y_2 - mx_2 - c)x_2 + \dots + (y_6 - mx_6 - c)x_6$
 $= -3.4066$

$$\frac{\partial L}{\partial c} = -4.699$$

step 3:- $\Delta m = 0.034066$
 $\Delta c = 0.04699$

step 4:- $m = m + \Delta m = 1.03066$
 $c = c + \Delta c = -0.953$

step 5:- epoch = epoch + 1

step 6:- grad m = -3.3530
grad c = -4.62115

step 7:- $\Delta m = 0.03353$
 $\Delta c = 0.04699$

step 8:- $m = 1.06759$
 $c = -0.967054$