

Assignment - II

18K41A04B1

Step 1:- $x = [0.2, 0.4, 0.6, 0.8, 1.0, 1.2]$

$$y = [3.4, 3.6, 4.2, 4.6, 5.0, 5.4]$$

$$m = 1, c = -1, \text{ Learning rate} = 0.01$$

$$\text{batch-size} = 2, V_m = 0, V_c = 0$$

$$m, c = 0.9$$

Step 2:- Batch = 1

$$\text{grad } m = -1.3$$

$$\text{grad } c = -4.3$$

Step 3:- $\text{delta } m = 0.0130$

$$\text{delta } c = 0.043$$

Step 4:- $V_m = V_m * m_c + \text{delta } m = 0.01300$

$$V_c = V_c * m_c + \text{delta } c = 0.043$$

Step 5:- $m = m + V_m = 1.013$

$$c = c + V_c = -0.957$$

Step 6:- Batch = Batch + 1 = 2

Step 7:- $\text{grad } m = -3.23046$

$$\text{grad } c = -4.601010$$

Step 8:- $\text{delta } m = 0.0323046$

$$\text{delta } c = 0.046010$$

step 9:- $V_m = 0.0440046$
 $V_c = 0.0842101$

step 10 :- $m = 1.0570046$
 $c = -0.8722879$