

Day-1 (x)  
5551.82208  
4983.17184

Day-2 (y)  
4931.26380  
4775.53963

Step 1:- Read dataset,  $\eta = 0.1$ , epochs = 2,  $m = 1$ ,  $c = -1$ ,  $\hat{y} = 0.9$

$$V_m = 0 \text{ \& } V_c = 0$$

Step 2:- Set iteration = 1

Step 3:- Set sample  $i = 1$

Step 4:-  $y = (1) (5551.82208) - 1 = 5550.82208$

Step 5:-  $\frac{\partial E}{\partial m} = - (4931.26380 - 1) (5551.82208) + 1) 5551.82208$

$$\frac{\partial E}{\partial m} = 3439677.338750$$

$$\frac{\partial E}{\partial c} = - (4931.26380 - 1 (5551.82208) + 1)$$

$$\frac{\partial E}{\partial c} = 619.55328$$

Step 6:-  $V_m = 0.9(0) - (0.1) (3439677.338750)$

$$V_m = -343967.733375$$

$$V_c = 0.9(0) - (0.1) (619.55328)$$

$$V_c = -61.55583$$

Step 7:-  $m = 1 + (-343967.733875) = -343966.733875$

$$c = -1 + (-61.95583) = -62.95583$$

Step 8:- Sample  $i = i + 1 = 2$

Step 9:-  $y = (-343966.734)(4953.17184) + (-62.95533)$

$$y = -1714045405.72$$

Step 10:-  $\frac{\partial E}{\partial m} = -((4775.53968 - (-343966.734)(4953.17184)) - (-62.95583))(4953.17184)$

$$\frac{\partial E}{\partial m} = -(4775.53968 + 1714045405.72)(4953.17184)$$

$$\frac{\partial E}{\partial m} = -8541406595607.112$$

$$\frac{\partial E}{\partial c} = -1714050181.261$$

Step 11:-  $v_m = 0.9(-343967.734) - (0.1)(-8541406595607.112)$

$$v_m = 854140969131.69$$

$$v_c = 0.9(-61.95583) - (0.1)(-1714050181.261)$$

$$v_c = -171405073.88634$$

Step 12:-  $m = -343966.734 - 854140969131.67$

$$m = -854141313098.4$$

$$C = -62.95583$$

Step 13:- interaction + 1 = 2. sample - 1

Step 14:-  $y = (-854141313098.4)(5551.82208) + (-62.95583)$

$$y = -4.7420406014E15$$

Step 15:-  $\frac{\partial E}{\partial m} = - \frac{(4931.26380 + 4.7420406014E15)}{(5551.82208)}$

$$= -2.63269657156E19$$

$$\frac{\partial E}{\partial C} = -4.72204060150E15$$

Step 16:-  $v_m = (0.9)(-854140969131.67) - (0.1)(-2.63269657156E19)$

$$= 2.6326958E18$$

$$v_c = (0.9)(-171405073.83634) - (0.1)(-4.7420406014E15)$$

$$= 4.74203906E14$$

$$\text{Step 17:- } m = 354141313096 \cdot 4 + 2.632695618$$

$$= 2.63269495618$$

$$c = -62.95583 + 4.74203906614$$

$$= 4.74203906614$$

$$\text{Step 18:- } \text{Sample } z_{i+1}^0 = 2$$

$$\text{Step 19:- } Y = (2.63269495618)(4983.17184) + 4.74203906614$$

$$Y = 1.031191718622$$

$$\text{Step 20:- } \frac{\partial \epsilon}{\partial m} = - \left( (4775.53968 - (2.63269495618)(4983.17184) - 4.74203906614) \right)$$

$$(4983.17184)$$

$$= - (4775.53968 - 1.031191718622)(4983.17184)$$

$$= -6.53750875625$$

$$\text{Step 21:- } v_m = (0.9)(2.6326958618) - (0.1)(-6.53750875625)$$

$$= 6.53751112624$$

$$v_c = (0.9)(4.74203906614) - (0.1)(-1.031191718622)$$

$$= 1.031191761621$$

$$\text{Step 22:- } m = 2.632694951 + 6.5511124$$

$$m = 6.53751375124$$

$$c = 4.74203906614 + 1.031191761121$$

$$c = 1.031191808621$$