

7A)

# Assignment - 7(A)

Day 1(x)	Day 2(y)
5551.82208	4931.26380
4983.17184	4775.53468

Step-1

$$\eta = 0.1, \text{ epochs} = 2, m=1, C = -1$$

Step-2  $\gamma = 0.9, V_m = 0 \text{ & } V_c = 0$   
Set iteration = 1

Step-3. set sample = 1

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

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

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

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

$$\frac{\partial E}{\partial c} = 619.55828$$

Step-6  $V_m = 0.9(0) - (0.1)(3439677.33875)$

$$V_m = -343967.73375$$

$$V_c = 0.9(0) - (0.1)(619.55828)$$

$$V_c = -61.95583$$

Step-7  $m = 1 + c - 343967.73375$

$$= -343966.73375$$

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

$$= -62.95583$$

Step-8 Sample

$$i = i + 1 = 2$$

repeat step-4

Step-4  $y = (-343968.734)(4983.17184)$   
 $+ (-62.95583)$

Step-5  $y = -1714045405.72$

$$\frac{\partial E}{\partial m} = - \left( (4775.53968 - (-343966.734) \right. \\ \left. (4983.19184) - \right. \\ \left. (-62.955877)(4983.17184) \right)$$

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

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

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

Step-6

$$V_m = 0.9(-343967.734) - (0.1) \\ (-8541406595607.112)$$

$$V_m = -854141313098.4 + (-2.6326965 \\ = 2.6326958 \times 10^{18} \quad 7.15 \times 10^{-19})$$

$$V_c = (0.9)(-171405073.88634) \\ - (0.1)(-4.7420460150 \times 10^{15}) \\ = 4.74203906 \times 10^{14}$$

Step-7  $m = -854141313098.4 +$   
 $2.63269475 \times 10^{18}$   
 $= 2.63269475 \times 10^{18}$

$$\Phi = -62.95583 + 4.74203906 \times 10^{14} \\ = 4.74203906 \times 10^{14}$$

Step-8 Sample=2

Step-4  $y = 1.31191718 \times 10^{22}$

Step-5  $\frac{\partial E}{\partial m} = -6.53250375 \times 10^{25}$

$$\frac{\partial E}{\partial c} = -1.31191718 \times 10^{22}$$

Step - 6

$$Vm = (0.9)(2.6326958E^{18}) - \\(0.1)(-6.53750875E^{25}) \\= 6.53751112E^{24}$$

Step - 7

$$m = 2.63269495E + 6.53751112E^{24}$$

$$m = 6.5375137E^{24}$$

$$c = 4.7420390E^{14} + 1.31191761E^9$$

$$c = 1.31191808E^{21}$$