Iteration - 1

$$\eta = 0.1, m = 1, c = -1$$

$$\frac{\partial E}{\partial m} = -\frac{1}{2}\left[\left((Ya_1 - mx_1 - c)^* x_1\right)\right.$$

Data	
x	y
75.1	577.8
74.3	577
88.7	570.9

$$+ \left((Ya_2 - mx_2 - c) * x_2\right) + \left.\left((Ya_3 - mx_3 - c)^* x_3\right)\right]$$

$$= -\frac{1}{2}\left[\left((577.8 - (1)(75.1) + 1)^* 75.1\right) + \right.$$

$$\left((577 - (1)(74.3) + 1)^* 74.3\right) +$$

$$\left.\left((570.9 - (1)(88.7) + 1)^* 88.7\right)\right]$$

$$= -59056.31$$

$$\frac{\partial E}{\partial c} = -\frac{1}{2}\left[(Ya_1 - mx_1 - c) + (Ya_2 - mx_2 - c) + (Ya_3 - mx_3 - c)\right]$$

$$= -\frac{1}{2}\left[503.7 + 503.7 + 483.2\right]$$

$$= -745.3$$

$$\Delta m = -\eta\frac{\partial E}{\partial m} = -(0.1)(-59056.31)$$
$$= 5905.631$$

$$\Delta c = -\eta\frac{\partial E}{\partial c} = -(0.1)(-745.3) = 74.53$$

$$m = 1 + 5905.631 = 5906.631$$
$$c = -1 + 74.53 = 73.53$$

$- c)^{*}x_3)\Big]$

$\cdot 1) +$

$\cdot 3) +$

$88 \cdot 7)\Big]$

$+ \Big(Y_{\dot{a}3} -$

$)\Big]$

$)$

$= 74 \cdot 53$

Iteration - 2 $m = 5906 \cdot 631, \quad c = 73 \cdot 53$

$\frac{\partial E}{\partial m} = -\frac{1}{2}\Big[\Big(\big(577 \cdot 8 - (5906 \cdot 631)(75 \cdot 1) - 73 \cdot 53\big)$

$* 75 \cdot 1\Big) + \Big(\big(577 - (5906 \cdot 631)(74 \cdot 3) - 73 \cdot 53\big)^{*} 74 \cdot 3\Big)$

$+ \Big(\big(570 \cdot 9 - (5906 \cdot 631)(88 \cdot 7) - 73 \cdot 53\big)^{*} 88 \cdot 7\Big)\Big]$

$= -\frac{1}{2}\big[-112273085 \cdot 855\big] = 50136542 \cdot 928$

$\frac{\partial E}{\partial c} = -\frac{1}{2}\Big[\big(577 \cdot 8 - (5906 \cdot 631)(75 \cdot 1) - 73 \cdot 53\big)$

$+ \big(577 - (5906 \cdot 631)(74 \cdot 3) - 73 \cdot 53\big)$

$+ \big(570 \cdot 9 - (5906 \cdot 631)(88 \cdot 7) - 73 \cdot 53\big)\Big]$

$= -\frac{1}{2}\big[-1404863 \cdot 731\big] = 702431 \cdot 865$

$\delta m = -(0 \cdot 1)(56136542 \cdot 928) = -5613654 \cdot 293$

$\delta c = -(0 \cdot 1)(702431 \cdot 865) = -70243 \cdot 187$

$m = 5906 \cdot 631 + (-5613654 \cdot 293)$

$\quad = -5607747 \cdot 662$

$c = 73 \cdot 53 - 70243 \cdot 187 = -70169 \cdot 657.$