Iteration - 1

$h = 0.1, m = 1, c = -1$

x	y
75.1	577.8
74.3	577
88.7	570.9

$\frac{\partial E}{\partial m} = -\frac{1}{2} \left[((y_{a_1} - mx_1 - c) * x_1) \right.$

$+ ((y_{a_2} - mx_2 - c) * x_2) +$

$\left. ((y_{a_3} - mx_3 - c) * x_3) \right]$

$= -\frac{1}{2} \left[((577.8 - (1)(75.1) + 1) * 75.1) + ((577 - (1)(74.3) + 1) \right.$

$\left. * 74.3) + ((570.9 - (1)(88.7) + 1) * 88.7) \right]$

$= -59056.31$

$\frac{\partial E}{\partial c} = -\frac{1}{2} \left[(y_{a_1} - mx_1 - c) + (y_{a_2} - mx_2 - c) + (y_{a_3} - mx_3 - c) \right]$

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

$= -745.3$

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

$= 5905.631$

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

$= 74.53$

$m = 1 + 5905.631 = 5966.631$

$c = -1 + 74.53 = 73.53$

Iteration 2

$$\frac{\delta E}{\delta m} = -\frac{1}{9}\left[\,((577.8 - (5906.631)(78.1) - 73.53) \times 78.1)\right.$$
$$+ ((577 - (5906.631)(74.3) - 73.53) \ast 74.3) +$$
$$\left.((570.9 - (5906.631)(88.7) - 73.63) \ast 88.7)\right]$$
$$= -\frac{1}{9}\left[-112273085.835\right]$$
$$= 50136542.928$$

$$\frac{\delta E}{\delta c} = -\frac{1}{9}\left[\,(577.8 - (5906.631)(78.1) - 73.53)\right.$$
$$+ (577 - (5906.631)(74.3) - 7353)$$
$$\left.+ (570.9 - (5906.631)188.7) - 73.53)\right]$$
$$= -\frac{1}{9}\left[-1404863.731\right]$$
$$= 702431.865$$

$$\Delta m = -(0.1)(56136542.928) = -5613654.293$$
$$\Delta c = -(0.1)(702431.865) = -70243.187$$
$$m = 5906.631 + (-5613654.293)$$
$$= -5607747.662$$
$$c = 73.53 - 70243.187$$
$$= -70169.657$$