Date: / /
M T W T F S S

(3) $m = 1.05$, $b = 0.66$

$\hat{y}_1 = 1.05(1) + 0.66$ Error 1 = 3 − 1.71 = 0.29

$= \underline{1.71}$

$\hat{y}_2 = 1.05(2) + 0.66$ $Error_2 = 3 - 2.76 = 0.24$

$= \underline{2.76}$

Gradients:

$\frac{\partial J}{\partial m} - 2/2 [1 * 0.29 + 2 \times 0.24)$ $\frac{dJ}{\partial b} = -2/2 (0.29 + 0.24)$

$-1 (0.29 + 0.48)$ $= -1(0.53)$

$= -0.77$ $= -0.53$

Update m & b:

$m_{new} = 1.05 - 0.1(-0.77)$ $b_{new} = 0.66 - 0.1(-0.53)$

$1.05 + 0.077$ $= 0.66 + 0.053$

$= \underline{1.127}$ $= \underline{0.713}$

$\hat{y}$ - predicted:

$y_1 = 1.127(1) + 0.713$ $Error_1$ $2 - 1.84 = \underline{0.16}$

$= 1.84$

y^2 $1.127(2) + 0.713$ $Error_2$ $3 - 2.967 = \underline{0.033}$

$= 2.967$

$$MSE = \frac{(0.26)^2 + (0.033)^2}{2}$$

$$= 0.0133445$$