Thứ
Ngày . . No

Question 8

Age (x_1)	Sure (x_2)	y	$\hat{y}$	$\hat{y} - y$
35	720	0	0,999	0,999
28	650	1	0,998	-0,002
45	750	0	0,999	0,999
31	600	1	0,997	-0,003
52	780	0	0,999	0,999
29	630	1	0,998	-0,002
42	710	0	0,998	0,998
33	640	1	0,998	-0,002

$$J(w) = -\frac{1}{m}\sum_{i=1}^{m}\left[y_i^1 \log(\hat{y}_i) + (1-y_i)\log(1-\hat{y}_i)\right]$$

$$\frac{\partial J}{\partial w} = \frac{\partial J}{\partial \hat{y}} \frac{\partial \hat{y}}{\partial z} \frac{\partial z}{\partial w}$$

for w_0: $\frac{\partial J}{\partial w_0} = \frac{\partial J}{\partial \hat{y}} \frac{\partial \hat{y}}{\partial z} \frac{\partial z}{\partial w_0}$

$$w_0' = w_0 - 1\,\eta \frac{\partial J}{\partial w_0} = w_0 - \eta \frac{\partial J}{dy} \frac{\partial \hat{y}}{dz} \frac{\partial z}{dx}$$

$$= w_0 - \frac{1}{m}\sum_{i=1}^{m}(\hat{y}_i - y_i)\,x_{0i}$$

$$= 0.5 - \frac{1}{8}\sum_{i=1}^{8}(\hat{y}_i - y_i)\cdot 1 = 0,498$$

$$w_1' = w_1 - \eta \frac{\partial J}{\partial w_1} = w_1 - \frac{1}{8}\sum_{i=8}^{8}(\hat{y}_i - y_i)x_{1i}$$

$$= -7,427$$

$$w_2' = w_2 - \eta \frac{\partial J}{\partial w_2} = \frac{1}{8}\sum_{i=8}^{8}(\hat{y}_i - y_i)\cdot x_{2i}$$

$$= -287,826$$