

ASSIGNMENT 1
MACHINE LEARNING

Question 3

(a)

The update equation as per the newton's method is –

$$\theta_{new} = \theta_{old} - H^{-1} \nabla_{\theta} L(\theta)$$

H is a (n+1)*(n+1) matrix.

Theta:

-2.6205

0.7604

1.1719

Gradient:

1.0e-04 *

-0.0144

0.0443

0.1823

Hessian:

-9.9097 -38.4322 2.5682

-38.4322 -182.1721 17.2505

2.5682 17.2505 -18.3116

(b) Plot for training data and decision boundary fit by logistic regression

