

w\_0 : [-0.07203973]

weight vector: [-0.43449946 1.22087139]

Accuracy: 0.8145

Question 2 c)

Question 2 d)

Predicted Positives: [6364]

Predicted Negatives: [13636]

True Positives: [6121]

False Positives: [243]

True Negatives: [9757]

False Negatives: [3879]

Recall : [0.6121]

Precision: [0.96181647]

---

Area under the graph :0.901142497455

Question 3:

Question 3b

Train score: 93.4933333333 %

Test score: 92.56 %

Question 3c:

Best K : 3

Question 5:

softmax1((0, 0)): [0.5 0.5]

softmax1((1000, 0)): [nan 0.]

log(softmax1((-1000, 0))): [-inf 0.]

softmax2((0, 0)): [array([0.5, 0.5]), array([-0.69314718, -0.69314718])]

softmax2((1000, 0)): [array([1., 0.]), array([ 0., -1000.])]

softmax2((-1000, 0)): [array([0., 1.]), array([-1000., 0.])]

Question 6:

-----  
Final Train Accuracy: 91.895

Final Test Accuracy: 92.01  
-----

Final Train Loss: 0.291460695108

Final Test Loss: 0.287346326046