

2b)

w: [1.57176019 1.54901055], w0: -5.602170789801961

2c)

accuracy1: 0.8446666666666667

accuracy2: 0.844666666667

difference between accuracy1 and accuracy2: 0.0

2g)

$P(C = 1|x) = 0.05$ , precision: 0.510152025304, recall: 1.0

$P(C = 1|x) = 0.5$ , precision: 0.758434296365, recall: 0.8138

$P(C = 1|x) = 0.6$ , precision: 0.764867967853, recall: 0.6662

4a)

accuracy: 0.8953333333333333

4c)

accuracy: 0.814

4d)

accuracy: 0.8313333333333334

4e)

$| \text{accuracy4a} - \text{accuracy4e}(\text{train}) |$ : 0.010000000000000009

$| \text{accuracy4a} - \text{accuracy4e}(\text{test}) |$ : 0.034000000000000003

5b)

//anaconda2/lib/python2.7/site-packages/sklearn/discriminant\_analysis.py:692: UserWarning:  
Variables are collinear

warnings.warn("Variables are collinear")

Training accuracy: 0.17221666666666666

Testing accuracy: 0.1704

Time taken to fit the model to the training data: 5.48128890991 seconds

5c)

Training accuracy: 0.5649

Testing accuracy: 0.5558

Time taken to fit the model to the training data: 0.391880989075 seconds

5e)

Training accuracy: 0.9935

Testing accuracy: 0.9467

Time taken to fit the model to the training data: 4.97935509682 seconds

Training accuracy: 0.8248333333333333

Testing accuracy: 0.8141

Time taken to fit the model to the training data: 0.797624111176 seconds

5f)

Training accuracy: 1.0

Testing accuracy: 0.1687

Time taken to fit the model to the training data: 0.866914987564 seconds

Training accuracy: 0.8413333333333334

Testing accuracy: 0.8188

Time taken to fit the model to the training data: 0.0462889671326 seconds

5h)

Training accuracy: 0.8413333333333334

Testing accuracy: 0.8188

Difference in training accuracy: 0.0

Difference in testing accuracy: 0.0