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CS677

Homework 9, Discriminant Analysis

**Question 1:**

Linear Discriminant Analysis equation: y = -216.91369568182049x + 1.3632248567401974

Quadratic Discriminant Analysis returned the following means: [[ 0.00399456 0.01491177]

[-0.00444872 0.01438672]]

**Question 2:**

QDA is more accurate.

LDA score: 0.8

QDA score: 0.82

**Question 3:**

LDA confusion matrix:

Predicted Green Red

Actual

Green 20 9

Red 1 20

QDA confusion matrix:

Predicted Green Red

Actual

Green 21 8

Red 1 20

**Question 4:**

LDA classifier TPR and TNR

True positive rate: 68.97%

True negative rate: 95.24%

QDA classifier TPR and TNR

True positive rate: 72.41%

True negative rate: 95.24%

**Question 5:**

Buy-and-hold retrieved from previous assignment: $125.70

LDA strategy final balance: $326.92

QDA strategy final balance: $352.45

The QDA strategy was the most profitable