**Related file: XU\_YUHAN\_Assign\_10\_lin\_qua.py**

**Assignment 10 Discriminant Analysis**

## **1. what is the equation for linear and quadratic classifier found from year 1 data?**

Linear:



Quadratic:



## **2. what is the accuracy for year 2 for each classifier. Which classifier is ”better”?**

| **Classifier** | **Accuracy** | **ScreenShot** |
| --- | --- | --- |
| LDA | 52% |  |
| QDA | 67% |  |

## **3. compute the confusion matrix for year 2 for each classifier**

| **LDA** | **QDA** |
| --- | --- |
|  |  |

## 

## **4. what is true positive rate (sensitivity or recall) and true negative rate (specificity) for year 2?**

| **Classifier** | **TPR and TNR** |
| --- | --- |
| LDA |  |
| QDA |  |

## **5. implement trading strategyies based on your labels for year 2 (for both linear and quadratic) and compare the performance with the ”buy-and-hold” strategy. Which strategy results in a larger amount at the end of the year?**

Because the second year is a big drop compared to the first year,it is impossible to hold for a long time.

Therefore, the strategies we can take are simple, all short-term actions. Buy when it falls compared to the previous day,

and sell when it rises compared to the previous day,so as to maximize the benefits.