Homework 7 - Stock Market

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Q1. The equation for logistic regression that my classifier found from year one data is as follows:

Intercept = -0.27942474
Coefficients = -0.56005292, 0.12176127
x1 - variable for mean_return
x2 - variable for volatility.

Equation = 1 / 1 + exp(-x).
Equation = 1 / 1 + exp(-(-0.28 - 0.56 * x1 + 0.12 * x2)).
Equation = 1 / 1 + exp(0.28 + 0.56 * x1 - 0.12 * x2).

Q2. The accuracy for year 2 is 75%.

Q3.

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Confusion Matrix for prediction on Year 2 data (2021)
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|          |Positive    | Negative  |
|---------------------------------|
| Positive |   20 (TP)  |   10 (FN) |
|---------------------------------|
| Negative |   3  (FP)  |   19 (TN) |
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Q4.

The true positive rate or sensitivity: 66.67
The true negative rate or specificity: 86.36

Q5.

My trading strategy resulted in greater results. The results of both methods are summarized below:

Buy and Hold (when initial amount is 100) = 225.78
My strategy (when initial amount is 100) = 513.98