

273. Consider this scenario for Questions 3 to 7.

You are evaluating a binary classifier. There are 50 positive outcomes in the test data, and 100 observations.

Using a 50% threshold, the classifier predicts 40 positive outcomes, of which 10 are incorrect.

What is the classifier’s F1 score on the test sample?

a. 50%

b. 66.7%

c. 67.5%

d. 70%

284. Consider this scenario for Questions 3 to 7.

You are evaluating a binary classifier. There are 50 positive outcomes in the test data, and 100 observations.

Using a 50% threshold, the classifier predicts 40 positive outcomes, of which 10 are incorrect.

Increasing the threshold to 60% results in 5 additional positive predictions, all of which are correct. Which of the

following statements about this new model (compared with the original model that had a 50% threshold) is TRUE?

a. The F1 score of the classifier would decrease.

b. The area under the ROC curve would decrease.

c. The F1 score of the classifier would remain the same.

d. The area under the ROC curve would remain the same.

285. Consider this scenario for Questions 3 to 7.

You are evaluating a binary classifier. There are 50 positive outcomes in the test data, and 100 observations.

Using a 50% threshold, the classifier predicts 40 positive outcomes, of which 10 are incorrect.

The threshold is now increased further, to 70%. Which of the following statements is TRUE?

a. The Recall of the classifier would Increase.

b. The Precision of the classifier would decrease.

c. The Recall of the classifier would increase or remain the same.

d. The Precision of the classifier would increase or remain the same.

286. Which option is the sparse representation of the matrix below?

[(1, 1, 2), (1, 2, 3), (3, 4, 1), (2, 4, 4), (4, 3, 1)]

a. [[2 0 0 0],

[0 3 0 0],

[0 0 0 1],

