

Naive Bayes Classifier (Assignment 5)
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Testing Email Body...

True Labels [0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0]

Self Pred labels [0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]

Naive Bayes from Scratch f-measure: 0.5714285714285715 (k=1)

SciPy Pred Labels [0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1]

Naive Bayes from SciPy f-measure: 0.6666666666666666

Testing Email Subject...

True Labels [0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0]

Self Pred labels [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1]

Naive Bayes from Scratch f-measure: 0.0 (k=1)

SciPy Pred Labels [0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1]

Naive Bayes from SciPy f-measure: 0.6666666666666666

From my implementation of the Naive Bayes Classifier, we can see that using the body is a better method of determining spam messages by the better f-score.

However, when using the SciPy implementation, we can see that both are equally good to determine if a message is spam or not. This is due to them updating the known bag of words on each test.