Artificial Intelligence Assignment 4

a. See included code implementation
b. Custom Classifier F-measures
    a. Email Body

```
Predicting using email body dataset and custom Naive Bayes Classifier:
Predicted 10 correctly out of 13 (76.92308%).
Computed f-measure: 0.8235294117647058
```

    b. Email Subject

```
Prediction using email subject dataset and custom Naive Bayes Classifier:
Predicted 8 correctly out of 13 (61.53846%).
Computed f-measure: 0.7368421052631579
```

    c. With random_state = 5 on sklearn.train_test_split, the email body produces more accurate results with a higher f-measure of 0.8235 vs 0.7368 for the email subject
c. Scikit-learn F-measures
    a. Email Body

```
Predicting using email body dataset and sklearn's Naive Bayes Classifier:
f-measure: 0.8235294117647058
```

    b. Email Subject

```
Predicting using email subject dataset and sklearn's Naive Bayes Classifier:
f-measure: 0.7368421052631579
```

    c. With random_state = 5 on sklearn.train_test_split, the email body produces more accurate results with a higher f-measure of 0.8235 vs 0.7368 for the email subject
d. It appears the custom classifier that I made performs the same as the sklearn classifier when they are trained and tested on the same datasets