**PROGRAMMING ASSIGNMENT 3**

**NAÏVE BAYES IMPLEMENTATION**

**BY**

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Part A

Text

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We have reported the top 3 spam and top 3 non spam words according to their log likelihoods score and also for the implementation of Simple\_Naive\_Bayes (Simple\_NB()) , we have reported the accuracy, precision, recall and f1\_score

Part B

We have used our implementation of Simple\_NB() to predict whether a sentence is Spam or Not Spam based on their posterior likelihoods.

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Part C

We have used scikit-learn function to get GaussianNB, MultinomialNB and BernoulliNB to get scores of parameters like accuracy, recall, precision and f1.

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Part D

We have used matplotlib.pyplot to draw bar plots of scores of parameters like accuracy, f1, recall and precision of different Naïve Bayes implementation like Simple\_NB, Gaussian NB, Multinomial NB and Bernoulli NB.

Chart, bar chart

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Part E – We have generated obj file of the model using pickle­­