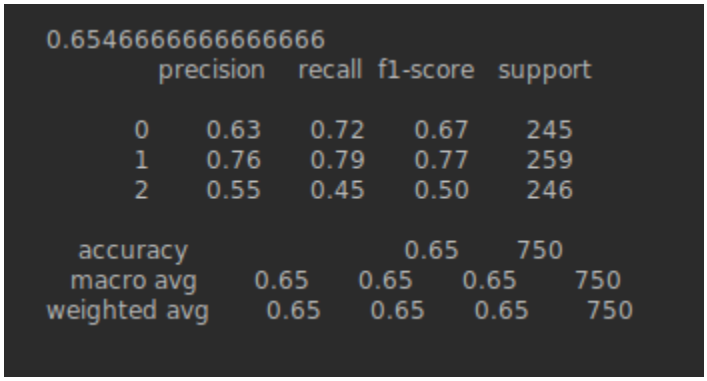
CMPE 462 Project Step 2

For the step 2 we did all of the coding together, sharing screens.

To classify the reviews we have tried 3 methods.

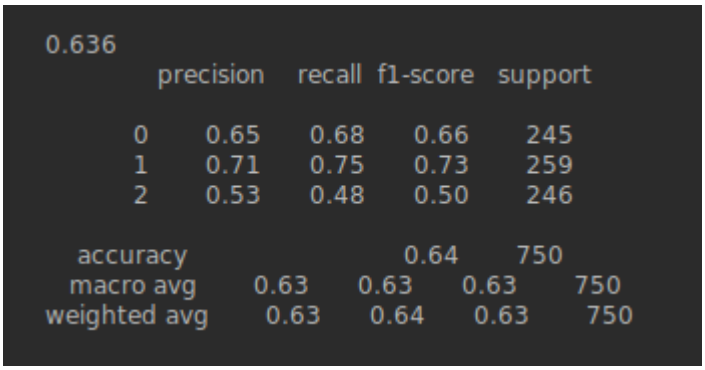
Multinomial Naive Bayes (MNB):



0.6546666666666666

	precision	recall	f1-score	support
0	0.63	0.72	0.67	245
1	0.76	0.79	0.77	259
2	0.55	0.45	0.50	246
accuracy			0.65	750
macro avg	0.65	0.65	0.65	750
weighted avg	0.65	0.65	0.65	750

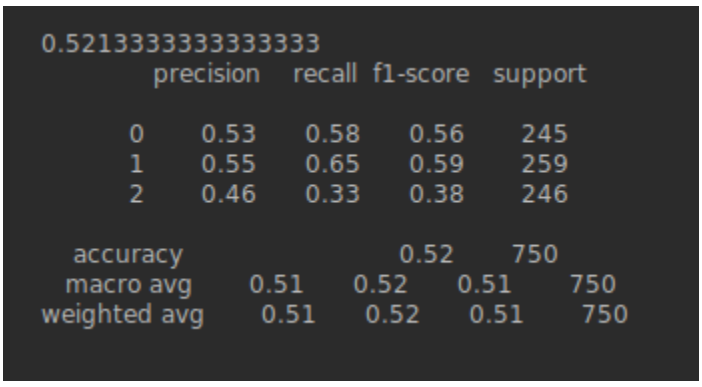
Support Vector Classifier (SVC):



0.636

	precision	recall	f1-score	support
0	0.65	0.68	0.66	245
1	0.71	0.75	0.73	259
2	0.53	0.48	0.50	246
accuracy			0.64	750
macro avg	0.63	0.63	0.63	750
weighted avg	0.63	0.64	0.63	750

K Nearest Neighbors (KNN):



0.5213333333333333

	precision	recall	f1-score	support
0	0.53	0.58	0.56	245
1	0.55	0.65	0.59	259
2	0.46	0.33	0.38	246
accuracy			0.52	750
macro avg	0.51	0.52	0.51	750
weighted avg	0.51	0.52	0.51	750

Among those 3, the best performing one was the multinomial naive bayes, as can be seen from the metrics. We think that is because dictionary of words used in different classes of reviews is pretty specific to each class.

Our result on val data: