

1

```

Mapped vector for female in column gender : [1.]
Mapped vector for Black/African American in column race : [0. 1. 0. 0.]
Mapped vector for Other in column race_o : [0. 0. 0. 0.]
Mapped vector for economics in column field : [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 1. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```

2

```

455 0.760413616368
Training Accuracy LR: 0.65
Testing Accuracy LR: 0.66

```

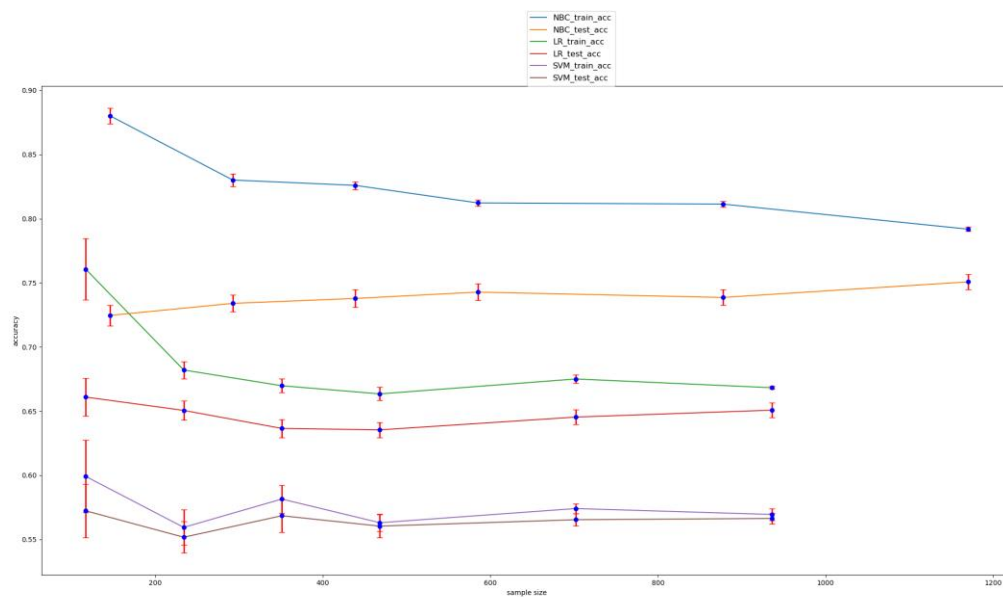
```

Training Accuracy SVM: 0.57
Testing Accuracy SVM: 0.57

```

3

(iii)



(iv) hypothesis: the performance of LR and SVM are different

(v)

The pair-wise t-test between the training accuracies of LR and SVM, and the pair-wise t-test between the test accuracies of LR and SVM are as follows

```
t statistics for training Ttest_relResult(statistic=10.305297332774275, pvalue=0.00014796352530622344)
t statistics for test Ttest_relResult(statistic=20.434523836911993, pvalue=5.192803922357225e-06)
```

Both p values < 0.05 , means that they are statistically different.