

For the given problem a tree model is trained and over 5 fold-cross validation 0.92 accuracy is obtained. Average performance scores found to be as below.

```
Confusion Matrix :  
[[ 320  391]  
 [ 457 8832]]  
Accuracy Score is 0.9152  
Classification Report :  
              precision    recall  f1-score   support  
  
     1         0.41         0.45         0.43         711  
     2         0.96         0.95         0.95        9289  
  
    accuracy                   0.92        10000  
   macro avg         0.68         0.70         0.69        10000  
  weighted avg         0.92         0.92         0.92        10000  
  
AUC-ROC: 0.7004361736936403
```

Furthermore, It is observed that duration feature is most correlated feature with y. As duration(last contact duration) increase, clients are more likely to subscribed to a term deposit.