Report:

Selected algorithm:

SVC: Support Vector Classifier
I have used this algorithm because SVC is generally used in classification related algorithms. It yields strong results.
Model:

```
from sklearn.svm import SVC
svc=SVC(kernel='linear',gamma=0.2,random_state=42)
svc.fit(Xtrain,Ytrain)
Ypred=svc.predict(Xtest)
```

Performance metrics:

	Precision	recall	f1-score	support
0	0.81	1.00	0.90	846
1	0.00	0.00	0.00	195
accuracy			0.81	1041
macro avg	0.41	0.50	0.45	1041
weighted avg	0.66	0.81	0.73	1041

The roc_oc_auc score is 0.5

Confusion matrix:

```
[[846   0]
 [195   0]]
```

After class imbalance:

```
from imblearn.over_sampling import SMOTE
sm=SMOTE(random_state=42)
X_train,Y_train=sm.fit_resample(Xtrain,Ytrain)
svc=SVC(kernel='linear',gamma=0.2,random_state=42)
svc.fit(X_train,Y_train)
Y_pred=svc.predict(Xtest)
```

Performance metrics:

	precision	recall	f1-score	support
0	0.85	0.56	0.68	846
1	0.23	0.57	0.33	195
accuracy			0.56	1041
macro avg	0.54	0.57	0.50	1041
weighted avg	0.73	0.56	0.61	1041

```
The roc_oc_auc score is 0.5659392616839425
[[476 370]
 [ 84 111]]
```