

```
In [65]: import warnings
warnings.filterwarnings('ignore')
%run ~/Desktop/KimConger_Assignment5/ImbalancedDataSampling.py
```

~~~~~PART ONE~~~~~

Neural Network (MLPClassifier)

Overall Accuracy: 0.975

Confusion Matrix:

```
[[40  0  0]
 [ 0 27  3]
 [ 0  0 50]]
```

Class Balanced Accuracy: 0.948

Balanced Accuracy: 0.985

Sklearn Balanced Accuracy: 0.967

~~~~~PART TWO~~~~~

RANDOM OVERSAMPLING

Neural Network (MLPClassifier)

Overall Accuracy: 0.967

Confusion Matrix:

```
[[50  0  0]
 [ 0 45  5]
 [ 0  0 50]]
```

SMOTE OVERSAMPLING

Neural Network (MLPClassifier)

Overall Accuracy: 0.980

Confusion Matrix:

```
[[50  0  0]
 [ 0 47  3]
 [ 0  0 50]]
```

ADASYN OVERSAMPLING

Neural Network (MLPClassifier)

Overall Accuracy: 0.950

Confusion Matrix:

```
[[40  0  0]
 [ 0 48  3]
 [ 0  4 46]]
```

~~~~~PART THREE~~~~~

RANDOM UNDERSAMPLING

Neural Network (MLPClassifier)

Overall Accuracy: 0.978

Confusion Matrix:

```
[[30  0  0]
 [ 0 28  2]
 [ 0  0 30]]
```

Cluster Undersampling

Neural Network (MLPClassifier)

Overall Accuracy: 0.956

Confusion Matrix:

```
[[30  0  0]
 [ 0 27  3]
 [ 0  1 29]]
```

Tomek Links Undersampling

Neural Network (MLPClassifier)

Overall Accuracy: 0.975

Confusion Matrix:

```
[[40  0  0]
 [ 0 27  3]
 [ 0  0 49]]
```