```
----------------------------PART1-------------------------------


NN (neural_network.MLPClassifier):

Accuracy:

0.9583333333333334

Confusion Matrix:

[[40  0  0]
 [ 0 25  5]
 [ 0  0 50]]

Class Balanced Accuracy:

0.9141414141414143

Balanced Accuracy(From Lecture):

0.9603174603174605

Balanced Accuracy(From balanced_accuracy_score):

0.9444444444444445

----------------------------PART2-------------------------------
```

```
Rebalancing using random oversampling

C:\Users\Alex Anderson\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10
es\Python310\site-packages\sklearn\neural_network\_multilayer_perceptron.py:702: C
r: Maximum iterations (200) reached and the optimization hasn't converged yet.
  warnings.warn(
C:\Users\Alex Anderson\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10
es\Python310\site-packages\sklearn\neural_network\_multilayer_perceptron.py:702: C
r: Maximum iterations (200) reached and the optimization hasn't converged yet.
  warnings.warn(

NN (neural_network.MLPClassifier):

Accuracy:

0.96

Confusion Matrix:

[[50  0  0]
 [ 0 44  6]
 [ 0  0 50]]
```

```
Rebalancing using SMOTE

C:\Users\Alex Anderson\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.1
es\Python310\site-packages\sklearn\neural_network\_multilayer_perceptron.py:702:
r: Maximum iterations (200) reached and the optimization hasn't converged yet.
  warnings.warn(
C:\Users\Alex Anderson\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.1
es\Python310\site-packages\sklearn\neural_network\_multilayer_perceptron.py:702:
r: Maximum iterations (200) reached and the optimization hasn't converged yet.
  warnings.warn(

NN (neural_network.MLPClassifier):

Accuracy:

0.98

Confusion Matrix:

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

```
Rebalancing using ADASYN

C:\Users\Alex Anderson\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.1
es\Python310\site-packages\sklearn\neural_network\_multilayer_perceptron.py:702:
r: Maximum iterations (200) reached and the optimization hasn't converged yet.
  warnings.warn(
C:\Users\Alex Anderson\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.1
es\Python310\site-packages\sklearn\neural_network\_multilayer_perceptron.py:702:
r: Maximum iterations (200) reached and the optimization hasn't converged yet.
  warnings.warn(

NN (neural_network.MLPClassifier):

Accuracy:

0.9290780141843972

Confusion Matrix:

[[40  0  0]
 [ 0 45  6]
 [ 0  4 46]]

------------------------------PART3------------------------------


Rebalancing using random undersampling
```

```
NN (neural_network.MLPClassifier):

Accuracy:

0.8444444444444444

Confusion Matrix:

[[30  0  0]
 [ 0 16 14]
 [ 0  0 30]]

Rebalancing using Clusters
```

```
NN (neural_network.MLPClassifier):

Accuracy:

0.9222222222222223

Confusion Matrix:

[[30  0  0]
 [ 0 23  7]
 [ 0  0 30]]

Rebalancing using Tomek
```

```
NN (neural_network.MLPClassifier):

Accuracy:

0.9661016949152542

Confusion Matrix:

[[40  0  0]
 [ 0 25  4]
 [ 0  0 49]]
```