REPORT 1

OUTPUT

ICMP

[VOTING]

```
C:\Users\Joels PC\Desktop>python DA2.py
sys:1: DtypeWarning: Columns (20) have mixed types
se.
Accuracy: 0.94 (+/- 0.11) [OneVsRestClassifier]
Time taken: 12.93 seconds

Accuracy: 0.91 (+/- 0.16) [Bagging Classifier]
Time taken: 13.10 seconds

Accuracy: 0.89 (+/- 0.16) [MultinomialNB]
Time taken: 0.68 seconds

Accuracy: 0.94 (+/- 0.11) [Ensemble]
Time taken: 28.47 seconds
```

[WEIGHTED]

```
C:\Users\Joels PC\Desktop>python DA2.py
sys:1: DtypeWarning: Columns (20) have mixed types
Accuracy: 0.94 (+/- 0.11) [OneVsRestClassifier]
Time taken: 12.97 seconds

Accuracy: 0.91 (+/- 0.16) [Bagging Classifier]
Time taken: 13.02 seconds

Accuracy: 0.89 (+/- 0.16) [MultinomialNB]
Time taken: 0.64 seconds

Accuracy: 0.94 (+/- 0.11) [Ensemble]
Time taken: 33.04 seconds
```

[STACKING]

```
C:\Users\Joels PC\Desktop>python SDA2.py
sys:1: DtypeWarning: Columns (20) have mixed type
se.
Accuracy: 0.94 (+/- 0.11) [OneVsRestClassifier]
Time taken: 13.02 seconds

Accuracy: 0.91 (+/- 0.16) [Bagging Classifier]
Time taken: 13.03 seconds

Accuracy: 0.89 (+/- 0.16) [MultinomialNB]
Time taken: 0.66 seconds

Accuracy: 0.91 (+/- 0.16) [Ensemble]
Time taken: 31.27 seconds
```

Base Classifiers

S. No	Model	Accuracy (%)
1	OneVsRestClassifier	94
2	BaggingClassifier	91
3	MultinomialNB	89

Ensemble Classifiers

S. No	Model	Accuracy (%)
1	Voting Classifier	94
2	Weighted Classifier	94
3	Stacking Classifier	91

LAND

[VOTING]

```
C:\Users\Joels PC\Desktop>python DA2.py
Accuracy: 0.59 (+/- 0.00) [OneVsRestClassifier]
Time taken: 0.76 seconds

Accuracy: 0.92 (+/- 0.10) [Bagging Classifier]
Time taken: 1.71 seconds

Accuracy: 0.61 (+/- 0.02) [MultinomialNB]
Time taken: 0.13 seconds

Accuracy: 0.73 (+/- 0.08) [Ensemble]
Time taken: 2.93 seconds
```

[WEIGHTED]

```
C:\Users\Joels PC\Desktop>python DA2.py
Accuracy: 0.59 (+/- 0.00) [OneVsRestClassifier]
Time taken: 0.74 seconds

Accuracy: 0.92 (+/- 0.10) [Bagging Classifier]
Time taken: 1.65 seconds

Accuracy: 0.61 (+/- 0.02) [MultinomialNB]
Time taken: 0.16 seconds

Accuracy: 0.92 (+/- 0.10) [Ensemble]
Time taken: 3.18 seconds
```

[STACKING]

```
C:\Users\Joels PC\Desktop>python SDA2.py
Accuracy: 0.59 (+/- 0.00) [OneVsRestClassifier]
Time taken: 0.78 seconds

Accuracy: 0.92 (+/- 0.10) [Bagging Classifier]
Time taken: 1.69 seconds

Accuracy: 0.61 (+/- 0.02) [MultinomialNB]
Time taken: 0.14 seconds

Accuracy: 0.92 (+/- 0.10) [Ensemble]
Time taken: 3.43 seconds
```

Base Classifiers

S. No	Model	Accuracy (%)
1	OneVsRestClassifier	59
2	BaggingClassifier	92
3	MultinomialNB	61

Ensemble Classifiers

S. No	Model	Accuracy (%)
1	Voting Classifier	73
2	Weighted Classifer	92
3	Stacking Classifier	92

TCPSYN

[VOTING]

```
C:\Users\Joels PC\Desktop>python DA2.py
Accuracy: 0.94 (+/- 0.03) [OneVsRestClassifier]
Time taken: 14.77 seconds

Accuracy: 0.86 (+/- 0.26) [Bagging Classifier]
Time taken: 9.16 seconds

Accuracy: 0.66 (+/- 0.16) [MultinomialNB]
Time taken: 0.57 seconds

Accuracy: 0.91 (+/- 0.13) [Ensemble]
Time taken: 26.07 seconds
```

[WEIGHTED]

```
C:\Users\Joels PC\Desktop>python DA2.py
Accuracy: 0.94 (+/- 0.03) [OneVsRestClassifier]
Time taken: 14.86 seconds

Accuracy: 0.86 (+/- 0.26) [Bagging Classifier]
Time taken: 9.21 seconds

Accuracy: 0.66 (+/- 0.16) [MultinomialNB]
Time taken: 0.54 seconds

Accuracy: 0.86 (+/- 0.26) [Ensemble]
Time taken: 33.17 seconds
```

[STACKING]

```
C:\Users\Joels PC\Desktop>python SDA2.py
Accuracy: 0.94 (+/- 0.03) [OneVsRestClassifier]
Time taken: 14.66 seconds

Accuracy: 0.86 (+/- 0.26) [Bagging Classifier]
Time taken: 9.23 seconds

Accuracy: 0.66 (+/- 0.16) [MultinomialNB]
Time taken: 0.61 seconds

Accuracy: 0.86 (+/- 0.26) [Ensemble]
Time taken: 29.51 seconds
```

Base Classifiers

S. No	Model	Accuracy (%)
1	OneVsRestClassifier	94
2	BaggingClassifier	86
3	MultinomialNB	66

Ensemble Classifiers

S. No	Model	Accuracy (%)
1	Voting Classifier	91
2	Weighted Classifier	86
3	Stacking Classifier	86

TCPSYNACK

[VOTING]

```
C:\Users\Joels PC\Desktop>python DA2.py
Accuracy: 0.89 (+/- 0.19) [OneVsRestClassifier]
Time taken: 1.61 seconds

Accuracy: 0.92 (+/- 0.10) [Bagging Classifier]
Time taken: 1.58 seconds

Accuracy: 0.85 (+/- 0.16) [MultinomialNB]
Time taken: 0.13 seconds

Accuracy: 0.96 (+/- 0.06) [Ensemble]
Time taken: 3.66 seconds
```

[WEIGHTED]

```
C:\Users\Joels PC\Desktop>python DA2.py
Accuracy: 0.89 (+/- 0.19) [OneVsRestClassifier]
Time taken: 1.60 seconds

Accuracy: 0.92 (+/- 0.10) [Bagging Classifier]
Time taken: 1.59 seconds

Accuracy: 0.85 (+/- 0.16) [MultinomialNB]
Time taken: 0.12 seconds

Accuracy: 0.92 (+/- 0.10) [Ensemble]
Time taken: 3.86 seconds
```

[STACKING]

```
C:\Users\Joels PC\Desktop>python SDA2.py
Accuracy: 0.89 (+/- 0.19) [OneVsRestClassifier]
Time taken: 1.61 seconds

Accuracy: 0.92 (+/- 0.10) [Bagging Classifier]
Time taken: 1.59 seconds

Accuracy: 0.85 (+/- 0.16) [MultinomialNB]
Time taken: 0.14 seconds

Accuracy: 0.92 (+/- 0.10) [Ensemble]
Time taken: 4.13 seconds
```

Base Classifiers

S. No	Model	Accuracy (%)
1	OneVsRestClassifier	89
2	BaggingClassifier	92
3	MultinomialNB	85

Ensemble Classifiers

S. No	Model	Accuracy (%)
1	Voting Classifier	96
2	Weighted Classifier	92
3	Stacking Classifier	92

UDP

[VOTING]

```
C:\Users\Joels PC\Desktop>python DA2.py
sys:1: DtypeWarning: Columns (20) have mixed type
se.
Accuracy: 0.96 (+/- 0.01) [OneVsRestClassifier]
Time taken: 10.24 seconds

Accuracy: 0.90 (+/- 0.18) [Bagging Classifier]
Time taken: 10.12 seconds

Accuracy: 0.74 (+/- 0.15) [MultinomialNB]
Time taken: 0.60 seconds

Accuracy: 0.97 (+/- 0.02) [Ensemble]
Time taken: 22.41 seconds
```

[WEIGHTED]

```
C:\Users\Joels PC\Desktop>python DA2.py
sys:1: DtypeWarning: Columns (20) have mixed types.
se.
Accuracy: 0.96 (+/- 0.01) [OneVsRestClassifier]
Time taken: 10.10 seconds

Accuracy: 0.90 (+/- 0.18) [Bagging Classifier]
Time taken: 10.07 seconds

Accuracy: 0.74 (+/- 0.15) [MultinomialNB]
Time taken: 0.60 seconds

Accuracy: 0.90 (+/- 0.18) [Ensemble]
Time taken: 23.95 seconds
```

[STACKING]

```
C:\Users\Joels PC\Desktop>python SDA2.py
sys:1: DtypeWarning: Columns (20) have mixed types
se.
Accuracy: 0.96 (+/- 0.01) [OneVsRestClassifier]
Time taken: 10.09 seconds

Accuracy: 0.90 (+/- 0.18) [Bagging Classifier]
Time taken: 10.52 seconds

Accuracy: 0.74 (+/- 0.15) [MultinomialNB]
Time taken: 0.66 seconds

Accuracy: 0.90 (+/- 0.18) [Ensemble]
Time taken: 25.50 seconds
```

Base Classifiers

S. No	Model	Accuracy (%)
1	OneVsRestClassifier	96
2	BaggingClassifier	90
3	MultinomialNB	74

Ensemble Classifiers

S. No	Model	Accuracy (%)
1	Voting Classifier	97
2	Weighted Classifier	90
3	Stacking Classifier	90