

## REPORT PART A

### Results from Scikit Learn Library

The predicted values through decision tree using gini index as a criteria

Predicted Values:

[0 1]

Confusion Matrix:

[[1 1]

[0 0]]

Accuracy:

0.5

Classification\_Report:

	precision	recall	f1-score	support
0	1.00	0.50	0.67	2
1	0.00	0.00	0.00	0
micro avg	0.50	0.50	0.50	2
macro avg	0.50	0.25	0.33	2
weighted avg	1.00	0.50	0.67	2

The predicted values through decision tree using entropy as a criteria

Predicted Values:

[0 1]

Confusion Matrix:

[[1 1]

[0 0]]

Accuracy:

0.5

Classification\_Report:

	precision	recall	f1-score	support
0	1.00	0.50	0.67	2
1	0.00	0.00	0.00	0
micro avg	0.50	0.50	0.50	2
macro avg	0.50	0.25	0.33	2
weighted avg	1.00	0.50	0.67	2

Results using my model

Tree looks like

```
|X2 = 1
  |X1 = 0
    :[1]
    :[1]
  |X1 = 0
    |X3 = 0
      |X1 = 0
        :[0]
        :[0]
      |X1 = 0
        :[1]
        :[1]
    |X1 = 1
      |X1 = 0
        :[0]
        :[0]
      |X2 = 0
        :[0]
        :[0]
```

Results are as follows:

Confusion Matrix:

```
[[1 0]
```

```
[1 0]]
```

Accuracy:

0.5

Classification\_Report:

	precision	recall	f1-score	support
0	0.50	1.00	0.67	1
1	0.00	0.00	0.00	1

micro avg	0.50	0.50	0.50	2
macro avg	0.25	0.50	0.33	2
weighted avg	0.25	0.50	0.33	2

The gini index value of the root node

For My model = 0.4166666663