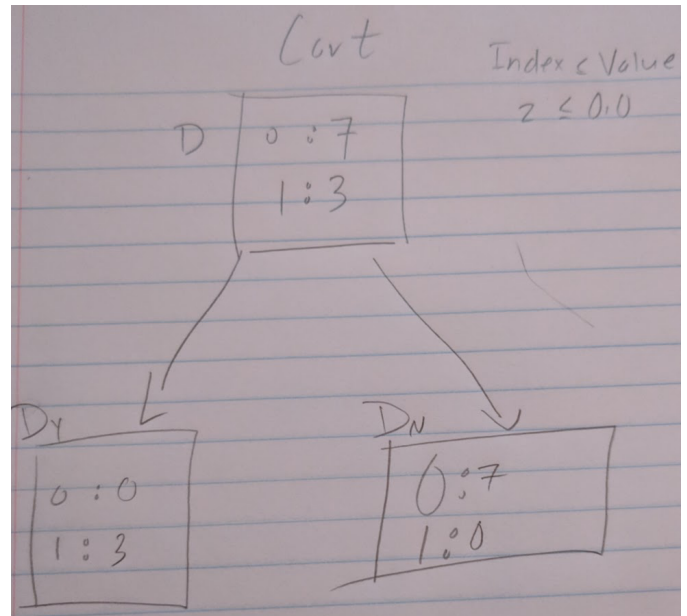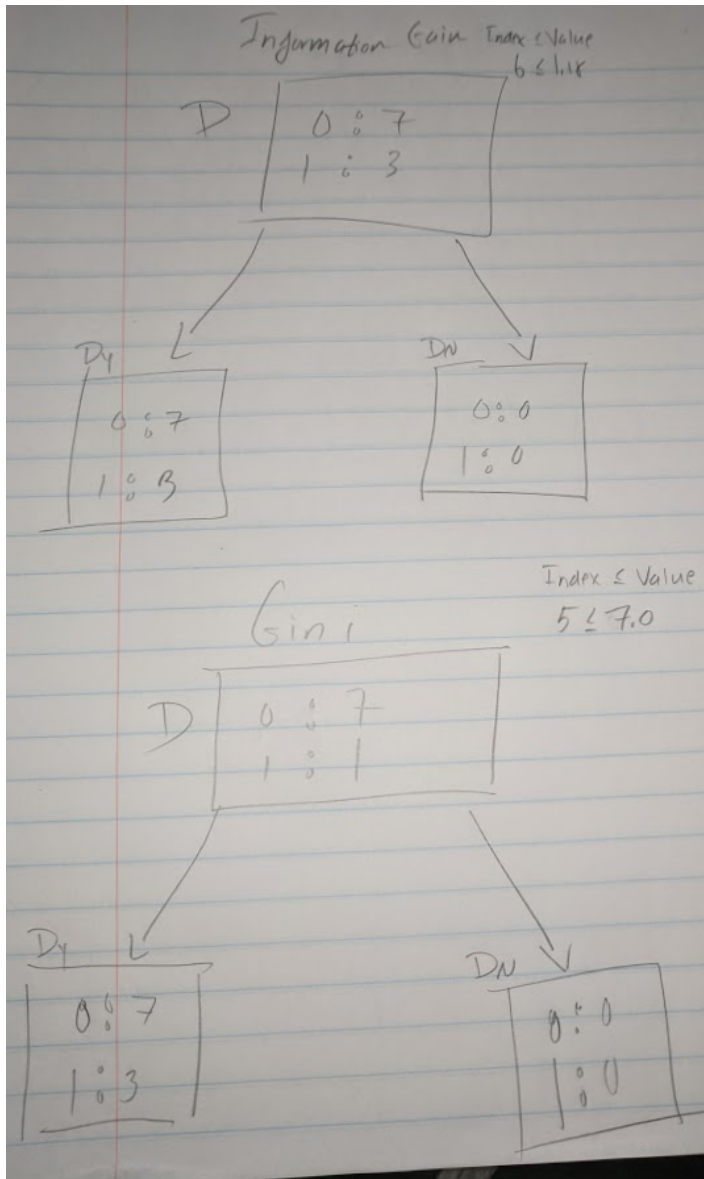F.)

G.) For the information gain that I wrote, I got a classification error of 80% which is awful. This classifier would mark 8/10 of the classes incorrectly. For the gini index classifier, I got a classification error of 30%. Not as bad as information gain, but still not great. For my cart classifier, I'll preface it with saying that the classifier is classifying everything correctly, just the opposite of what it is supposed to be. I believe this is due to an error in the algorithm, but after

going over it multiple times I cannot spot where I made the error. This means the classifier has a classification error of 100%. The absolute worst one out of all the classifiers.

```
Information Gain:
[1, 1, 1, 1, 0, 1, 1, 1, 1, 1]
Test:
[0. 0. 0. 0. 1. 1. 0. 1. 0. 0.]
Gini Index:
[0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
Test:
[0. 0. 0. 0. 1. 1. 0. 1. 0. 0.]
Cart:
[1, 1, 1, 1, 0, 0, 1, 0, 1, 1]
Test:
[0. 0. 0. 0. 1. 1. 0. 1. 0. 0.]
```