< Decision Tree - Putting it together >

* Overall process for building decision tree

① start with all examples at the root node

② Calculate information gain for all possible features, and pick the one with the highest information gain

③ Split dataset according to selected feature, and create left and right branches of tree

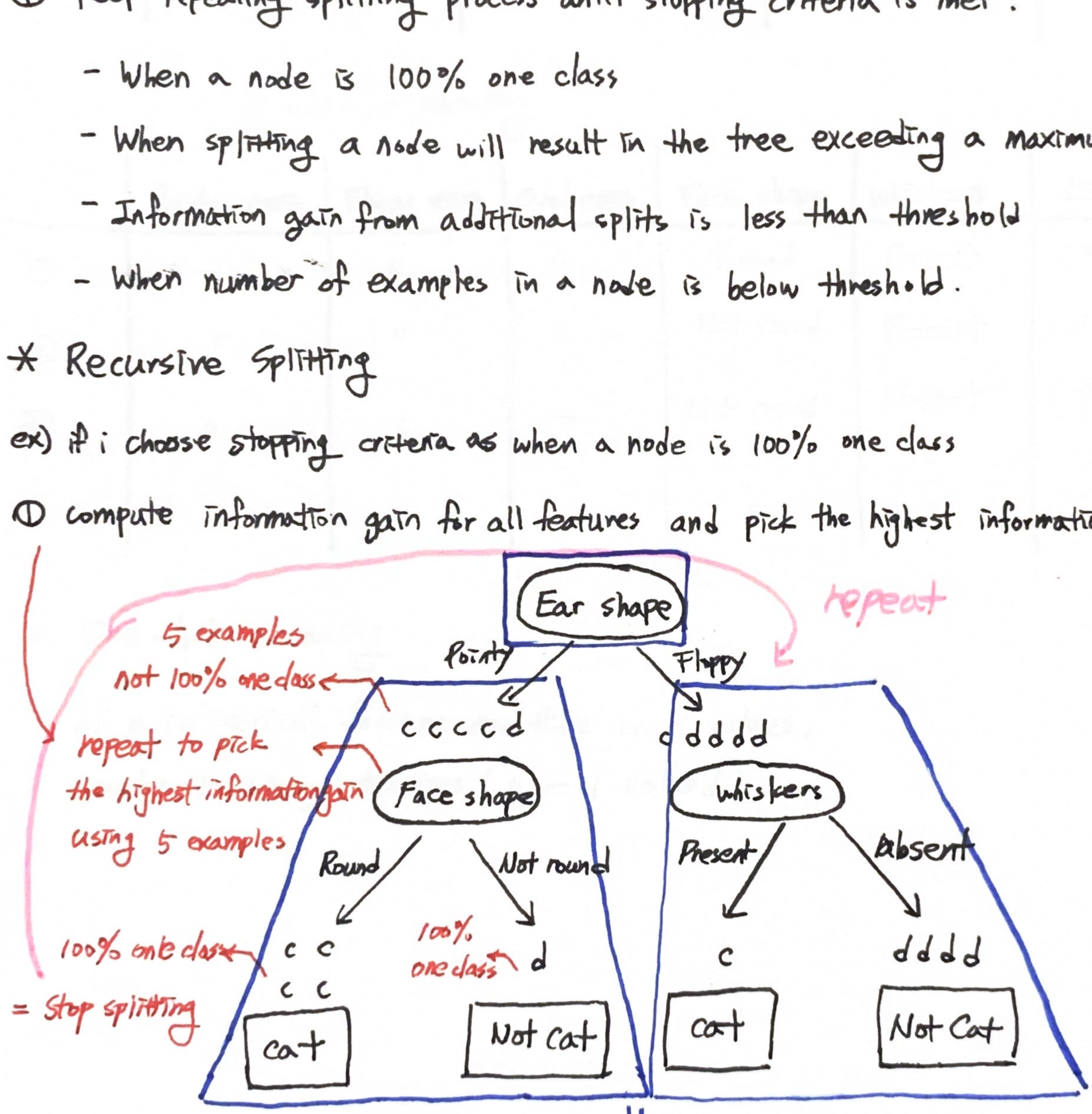
④ Keep repeating splitting process until stopping criteria is met :

- When a node is 100% one class
- When splitting a node will result in the tree exceeding a maximum depth
- Information gain from additional splits is less than threshold
- When number of examples in a node is below threshold.

* Recursive Splitting

ex) if i choose stopping criteria as when a node is 100% one class

① compute information gain for all features and pick the highest information gain = Ear shape



"Recursive algorithm"

= the way you build the decision tree at the root is by building other smaller decision trees in sub-branches