Decision Tree Learning Algorithm

S = set of all attributes in the example data set
Choose an attribute A from S (pick the attribute that
provides the most information gain)
Repeat
Create a branch for each value v_i that A can take
   For each value v_i that A can take do the following
      Find the set of examples X for which A=v_i
      If X is empty
         Choose the decision value that is contained in the
         most examples and put this as the leaf node on
         this branch
      Else if X contains only one decision value d
         Put d in the tree at this leaf node
      Otherwise
         Create a new set of attributes S' = S - A
         Choose an attribute from S. to build a subtree as
         Above
   Endfor
Until all attributes have been exhausted or tree perfectly
characterizes the example set