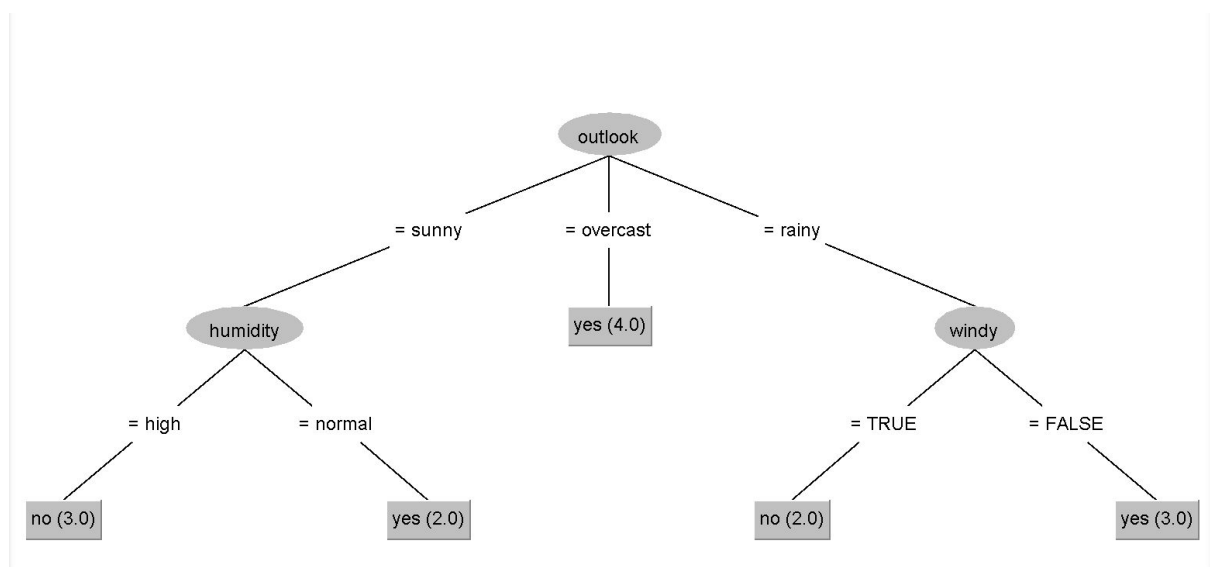


## Report Decision Trees

Explain the advantages and disadvantages of writing a program on your own vs using a pre-created suite such as WEKA:

When you use programs like WEKA you may or may not have an idea of what is happening in the background, but when you program the algorithm you must understand what is really happening. In the case of the ID3 algorithm, if you don't know how to calculate the entropy, or that you need to get the highest information gain value for each node in order to be able to select the best node, you won't be able to program the algorithm.

You need a deeper understanding of the things you program. Anyone can learn how to use tools like WEKA, just like anyone can use Excel, or Word.



Based in what you have learned so far where would you use decision trees?

Decision trees is a great tool for classification, based on some properties you can predict whether something is going to happen or not, or you can determine if something follows some sort of path to a specific class. It can be used in many applications such as fraud detection where an event has some characteristics and based on them you can determine and prevent very costly errors, they are also widely used in business management, they are a great tool for customer relationships because you can classify them based on their behaviors and is that way provide them the best possible solution that fits their needs.

Another great application that we saw in class is the one of compression because if you build a tree, then you can save tons of space.