Assignment 2

Decision Tree Implementation

1. Write a function `readAllSamples(fileName)` that will read all the samples from the file whose name is passed as parameter `fileName`. Your function need to return all the samples as a list or any other convenient data structure. [5]
2. Implement a function named `entropy(S,targetAttribute)` to compute Entropy of a set S of examples with respect to a target attribute. [5]
3. Implement a function named `informationGain(S,attribute)` to compute Information gain for the set of examples S, if we split a Sbased on the given `attribute`. [5]
4. Implement decision tree algorithm ID3 using the above functions. [10]

You will be given a dataset and you will need to report the **accuracy** of your decision tree model on that dataset.

Bonus: You can also report other performance measures such as precision, and recall.