Programming Homework 1: Decision Trees

Programming Homework 1: Due Wednesday, January 31st at 11:00pm; submit through Gradescope

- Starter code: id3.py, node.py.
- Supplementary Information
- Example Dataset 1 (ID3 model) (created by Vibhav Gogate)
- Example Dataset 2 (ID3 model) (created by Vibhav Gogate)
- Mushroom Dataset (ID3 model) Another dataset for you to play with.

Note: please do not alter **node.py** code. Please do not change the names or parameters (count or order) of following methods in **id3.py**

- entropy(p)
- infogain(py_pxi, pxi, py, total)
- build_tree(data, varnames)

Please do not alter given methods such as **loadAndTrain**, **runTest** .
As mentioned in the pdf, You code should run from the command line on ix and accept the following arguments: .

```
./id3 <train> <test> <model>
```

Where train is the name of a file containing training data, test contains test data to be labeled, and model is the filename where you will save the model for the decision tree.
The input data files are in CSV format. The first line lists the names of the attributes. The last attribute is the class label