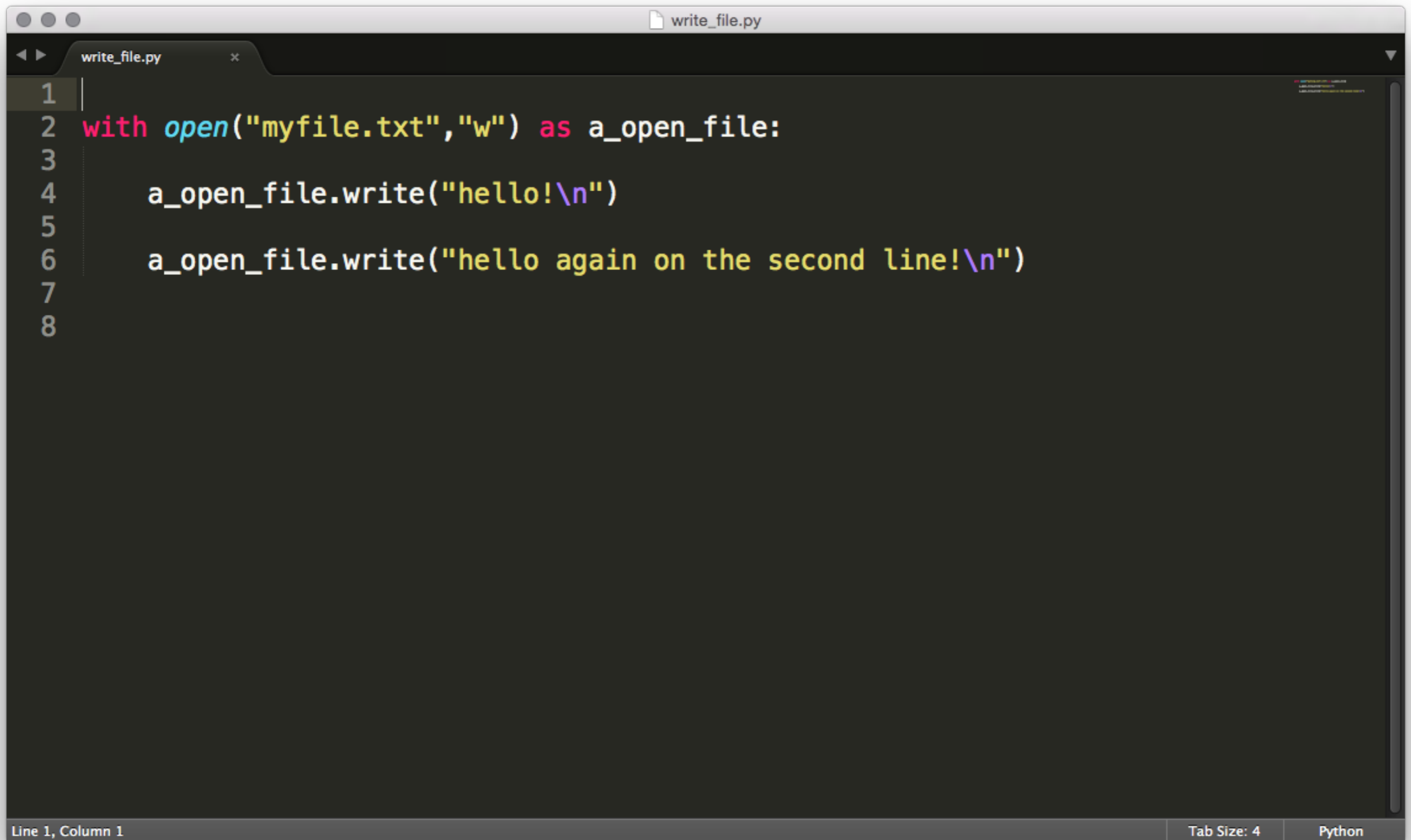


INFO-664-01 Programing For Cultural Heritage

Reading and Writing Files

Reading/Writing Files

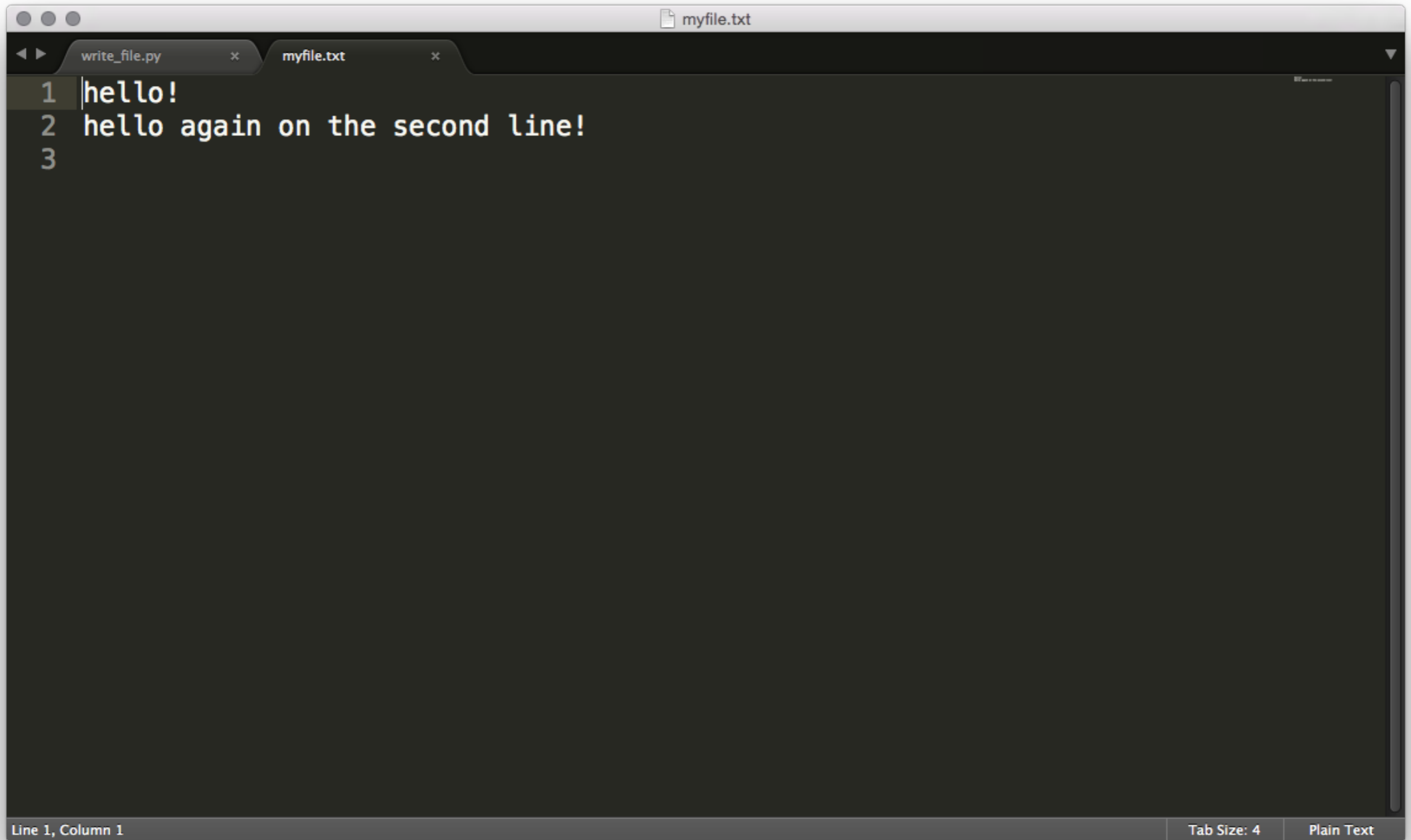
- Using the built in open function
- `open(filename, mode)`
- filename: The filename to read/write
- mode:
 - “w” - write (overwrites)
 - “a” - append
 - “r” - read (default, if mode is not specified)



```
write_file.py
1
2 with open("myfile.txt","w") as a_open_file:
3
4     a_open_file.write("hello!\n")
5
6     a_open_file.write("hello again on the second line!\n")
7
8
```

Line 1, Column 1 Tab Size: 4 Python

We are going to store the open file in the variable “a_open_file” and then use its method (write) to write things out to the file



The image shows a code editor window with two tabs: 'write_file.py' and 'myfile.txt'. The 'myfile.txt' tab is active and displays the following content:

```
1 |hello!  
2 |hello again on the second line!  
3 |
```

The status bar at the bottom of the editor shows 'Line 1, Column 1', 'Tab Size: 4', and 'Plain Text'.

The “\n” in the write command is called an escape code, there are many types but “\n” means “new line”, “\t” is another and means “tab”

A screenshot of a code editor window titled 'read_file.py'. The editor has two tabs: 'write_file.py' and 'read_file.py'. The code in the 'read_file.py' tab is as follows:

```
1 with open("myfile.txt","r") as a_open_file:
2
3     for a_line in a_open_file:
4
5         print (a_line)
6
```

The cursor is positioned at the start of line 4. The status bar at the bottom indicates 'Line 4, Column 1', 'Tab Size: 4', and 'Python'.

We open the file like the write example, but using the “r” for read mode. Then using a for loop we step through each line and print it.

CSV Reading

- We are going to use the built in csv module to read a .csv file and do something with the data.
- The module has a reader and writer method. The reader method we are going to use takes the open csv file and turns it into a big list of lists.

```
read_csv.py
1 import csv
2
3 #open the CSV file (make sure it is in the same directory)
4 with open('file_name.csv', 'r') as f:
5
6     #ask the csv module to parse the file for us
7     reader = csv.reader(f)
8
9     #the returned value is a big list of lists
10    for row in reader:
11
12        print( row )
13
```

Line 13, Column 1

Tab Size: 4 Python

The basic template for CSV reading.

Challenge

- Pick a dataset from
<https://opendata.cityofnewyork.us/>
(new) <https://toolbox.google.com/datasetsearch>
- Download as a CSV (Download->CSV), loop through it, compare the variables, look for something interesting.
- Zip up the python script and data file and submit on LMS