File I/O Part II

March 4, 2020

Administrative Notes

Homework 4

Review of March 2 Material

```
with open(“file name”, “r”) as f:

    contents = f.read() # this reads the entire contents of the file in as a single string

    #now you have to split that string into data you can actually use

    #a review of the code we looked at on Monday
```

read(), readline(), and readlines()

The read() method reads in the entire contents of a file into a single string

The readline() method reads in a single line from the file as a string

The readlines() method reads the entire contents of a file into a LIST of strings.

Each line of the file is a string in the list

Some examples of differences from the program we're working with

Writing to a file

Open the file for writing:

```
with open(“filename”, “w”) as outfile:

    # this deletes any content that was in the file before!!

    # if the file doesn’t exist, no problem. Python will create it for you

    # the only things that can be written to a file are strings!! You

    # have to convert everything to a string before you write it

    # you don’t have to write everything in a single write!!
```

Writing to a file, continued

Python has methods to write lines, but we’re not going to worry about them this semester

Sample program:

```
with open("sample.txt","w") as outfile:
    for i in range(10):
        outstring = "line number "+str(i)+'\n'
        outfile.write(outstring)
```

Now, another more complex example

Read in a medal table from last year's IAAF Track & Field World Championships

- Read it in one line at a time

Realize that it does not contain a "total medals" column

Compute the total number of medals won by each country (gold + silver + bronze)

Write each line back out to a different file, including the total medals won on each line