**Python for Everyone: Notes**

**Chapter 7: Reading files**

* File processing
  + A text file can be thought of as a sequence of lines
* Opening a file
  + Before we can read the contents of the file, we must tell python which file we are going to work with and what we will be doing with the file
  + This is done with the open() function
  + Open() returns a file handle, a variable used to perform operations on the file
  + Similar to file -> open on word
* Using open()
  + Handle = open(filename, mode); i.e. fhand = open(‘mbox.txt’, ‘r’)
  + Returns a handle use to manipulate the file
  + Filename is a string
  + Mode is optional and should be “r” if we are planning to read the file and “w” if we are going to write the file
* What is a handle
  + shows details of the file
  + either open, read, write, close
* The newline character
  + We use a special character called the newline to indicate when a line ends
  + We represent it as \n in strings
  + Newline is still one character, not two
* File processing
  + A textfile has newlines at the end of each line
* File handle as a sequence
  + A file handle open for read can be treated as a sequence of strings where each line in the file is a string in the sequence
  + We can use the for statement to iterate through a sequence
  + Remember, a sequence is an ordered set
* Counting lines in a file
  + Open a file read-only
  + Use a for loop to read each line
  + Count the lines and print out the number of lines
* Reading the whole file
  + We can read the whole file (newlines and all) into a single string
* Searching through a file
  + We can put an if statement in our for loop to only print lines that meet some criteria
  + Each line from the file has a newline at the end
  + The print statement adds a newline to each line
* Searching through a file
  + We can strip the whitespace from the right-hand side of the string using rstrip() from the string library
  + The newline is considered “white space” and is stripped
* Skipping with continue
  + We can conveniently skip a line by using the continue statement
* Using in to select lines
  + We can look for a string anywhere in a line as our selection criteria