Review Day for the Exam

Heads up I edited the Things To Know list (http://cs1110.cs.virginia.edu/know.html) to make it something that prints in Python, demonstrating all the things, I'll paste it at the bottom

Today's Practice Problem (my messy answer):

```
# one in-class practice, then taking questions
url =
"http://www.cs.virginia.edu/~up3f/cs1110/practice-of-the-day/simpsons_phone_book.csv"
# I have saved this CSV file to this directory
# write it out all the way before running to simulate testing
# task: open, read, put it in a dictionary
# the key is the name, the value is the phone number
file = open("simpsons_phone_book.csv")
dict = {}
for line in file:
   list = line.strip().split(',')
   if list[0].strip() in dict:
       old = dict[list[0].strip()]
       dict[list[0].strip()] = [old, list[1]]
   else:
       dict[list[0]] = list[1]
print(dict)
# I had to run it a couple of times to get here, my first version didn't put matching
names together
# the problem was that some names had spaces that weren't getting stripped, so perceived
as different
# could possibly have done this with a replace function, instead
# should have looked at the file before I started trying to code for it
```

Today's Practice Problem (class answer, less messy):

```
# open the file ---> open(filename, 'r')
# read line by line
# strip (spaces, /n)
# split(',')
# take care of extra spaces ---> strip for that piece of data
# get each line in a list containing name, phone number
# if name in dict, add phone number
# otherwise, add name, phone number to dict

def find_all_phone_numbers(filename):
   phone_dict = {}

   infile = open(filename, 'r')
   for line in infile:
       data = line.strip().split(',')
       name = data[0].strip()
       phone = data[1].strip()
       if name not in phone_dict.keys():
           phone_dict[name] = phone
```

```
        else:
            for k,v in phone_dict.items():
                if k == name:
                    phone_dict[k] = v + ", " + phone
    infile.close()

    return phone_dict
print(find_all_phone_numbers('simpsons_phone_book.csv'))
```

For more practice, do list problems building a dictionary and do dictionary problems building a list
Practice the tracing problems on paper by hand, since no Pycharm for the test

Run-able version of Things To Know:

```
lst = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
import random
print(random.randrange(1, 10))
random.shuffle(lst)
print(lst)
string = "this is a string"
print(string + " with another added to it")
print(string.lower())
print(string.upper())
print(string.strip())
print(string.split())
print(string.split("i"))
print(string.find("string"))
lst.append(12)
print(lst)
lst.insert(5, 15)
print(lst)
lst.remove(7)
print(lst)
del lst[2]
print(lst)
print(sum(lst))
lst.sort()
print(lst)
lst.reverse()
print(lst)
print(lst.index(8))
print(list(string))
for i in range(10):
   print(i)
for i in range(5, 15):
   print(i)
for i in range(5, 15, 2):
   print(i)
mapping = {5:'dictionaries', 18:'are arranged', 0:'by keys', 'not by indices':lst}
print(mapping.keys())
print(mapping.values())
print(mapping.items())
print(mapping.get(5))

file = open("fake-queue.csv")
for line in file:
   print(line)
import urllib.request
url = "http://cs1110.cs.virginia.edu/files/louslist/CS"
stream = urllib.request.urlopen(url)
for line in stream:
   decoded = stream.read().decode('utf-8')
   decoded = decoded.strip()
```

```
    print(decoded)
```
***this has some really long bits, I recommend commenting those out when not looking at them