Review Chapter 4, pages 120-127 about lists. Then answer these questions. You may find the Python prompt helpful in answering these.

1. (4 pts) Suppose we read in an input string that has commas separating each of the words, as the following example shows:

   "UCSB, Computer Science, is, like, awesome!"

Suppose that string is stored in a variable called inputLine. What function do you call to assign the variable items to be that data as a list? That is, how can we make the variable items have the following list as its value:

   ['UCSB','Computer Science','is','like','awesome!']

Note: I'm looking for an assignment statement with items on the left hand side, and something involving inputLine on the right. I'm not looking for:

   items = ['UCSB','Computer Science','is','like','awesome!']

That answer gets no credit.
2. Let \texttt{scores} be the name of a list of exam scores. For example, maybe

\begin{verbatim}
    scores = [92, 80, 78, 96, 85]
\end{verbatim}

or maybe \texttt{scores} is a list of 250 values or more. For each of the following questions, write a \textit{single statement} that reveals the answer in a Python shell.

a. (2 pts) What is the total of all values in the list (added together)?

b. (2 pts) How many values are in the list?

c. (2 pts) What is the \textit{mean} of the values in the list (i.e., average calculated as the sum of all values divided by the number of values).

d. (2 pts) What is the greatest value in the list?

e. (2 pts) What is the range of values in the list (i.e., greatest minus the smallest value)?
3. (7 pts) We can define a function that takes a list as a parameter. For example, this function counts how many times the word "cat" appears in a list.

```python
def countCat(theList):
    count = 0 # initialize count
    for word in theList:
        if word == "cat":
            count = count + 1
    return(count)
```

Write a function called `countNeg` that takes a list of numbers as its input and returns how many of the numbers in the list are negative.

**Hint:** This isn't really different from counting how many times the word "cat" appears. We know from the reading in Chapter 4 that we can have a list of numbers too, such as [3, 5, -9, 2, 4, -8] or [2, 3, 87, 1, -2].

Instead of looking for the word "cat", we are looking to see if the number is negative. We might want to use a different variable instead of `word`—perhaps `num` would be a good choice?

You could test the function by calling it like this at the Python command prompt:

```python
>>> countNeg([4, 20, -32, 14, -56])
```

You should get the answer 2 back. Try it on other lists as well.
4. (6 pts) Here is a Python session that illustrates how we can use a for loop to iterate over a list. Iterate means "process each item in sequence".

```python
>>> for name in ["John", "Sheila", "Maria"]:  
    print("Hello " + name)

Hello John
Hello Sheila
Hello Maria

>>> total = 0
>>> for name in ["John", "Sheila", "Maria"]:  
    total = total + len(name)

>>> print("total = " + str(total))
```

Given that, what would be the output of the following?

```python
>>> total = 0
>>> for name in ["John", "Sheila", "Maria"]:  
    total = total + len(name)

>>> print("total = " + str(total))
```