Activity 2-1

February 28, 2012

Task 1: Python Expressions and Assignments

1. Write an expression that averages the numbers 2,5, and 9. Make sure you get a decimal number (a `float`).
2. Assign the list of numbers `[2,5,9]` to a variable called `myList`. Write an expression that averages the elements of `myList`.
3. Assign the string `'2 5 9'` to a variable called `myString`. Using indexing, write an expression that just returns `'2'`. Do the same for `'5'` and `'9'`.
4. Add the three expressions you wrote in #3 together. What do you get? Why?

Task 2: Python Functions

Consider the following Python program (the green numbers are line references and not part of the program):

```
1  y = 10
2  x = y + 5
3
4  def addOne(t):
5     y = t + 1
6     return y
7
8  z = addOne(x)
9  z
10 y
```

Starting at Line 1, go through the program and write down the variable table (like we just did in class). What does `z` output in Line 9? What does `y` output in Line 10?

Task 3: Splitting a String and Working with Files

1. The `split` function, without an input argument, splits a string on any whitespace (including spaces, newlines, tabs, etc.). Use the expression `fileString.split()` to split on **different** delimiters by passing a string delimiter as input to the `split` function. Observe what happens when the delimiter is:

   ``\n''

   ``a''

   ``Sarah''

2. In `ACT2-1.py`, write a function called `readShel` that opens the poem and returns a list of words (separated by any spaces). This function should take 0 inputs and return a list.

Task 4: Counting the Number of Words in Moby Dick

Download and save `MobyDick.txt`. In `ACT2-1.py`, write a `readMobyDick()` function and a `countWordsInMobyDick()` function. Note that only a few things change from the `Shel` functions.

Be sure to save this python file! It will be useful for the next class.