



## Homework 1

CptS 355 - Programming Language Design  
Washington State University

[Home](#)[Kliks](#)[Calendar](#)[Syllabus](#)[Resources](#)[People](#)[Project  
turn-in](#)

### Overview

**Due Date:** Friday, Sept. 2 by 11:59PM

In this homework you will explore use of some of the features of Python.

### Turning in your assignment

**Note the following directions carefully.** Points will be deducted for incorrectly named files and functions.

Put your answers in a file named hwk1.txt, hwk1.doc, or hwk1.pdf having the appropriate type of content -- plain text, MS Word document, or Adobe PDF. Turn in the file at the [turn-in page](#). You may turn in your assignment as many times as you like. Only the last one submitted before the deadline will be graded. Please do NOT turn in this homework until you find your name on the list of student names at the left of the turnin page.

The work you turn in is to be **your own personal work**. You may **not** work together with another student, copy code from the web, or anything else that lets you avoid solving the problems for yourself. If you are stuck contact the TA or me, not other students.

### Grading

The assignment will be marked for correct answers and appropriate use of Python language features.

### Problems

In the following problems first try to figure out the answer, then use the documentation to figure out the answer, and only then use the Python interpreter to confirm that you have a correct answer.

1. Assume that L has been assigned a value as follows:

```
L = [1, 2, 3, 4, 5, 6]
```

What are the values of

1. `L[0]`
2. `L[-1]`
3. `L[1:2]`
4. `L[3:]`
5. `L[:3]`
6. `L[:]`

7. `L[::-1]`
2. What is different between `L[1:2]` and `L[1]`?
3. Slice assignment: assuming `L` is initialized as above, what is the value of `L` after executing

```
L[2:4] = []
```

Does slice assignment work for strings? Why not?

4. What is the difference between

```
L.append(7)
```

and

```
L = L + [7]
```

Hint: try assigning `L2 = L` and see what happens to `L2` in the two cases.

5. Again assume that `L` is initialized as in problem 1. What is `enumerate(L)`? What is `list(enumerate(L))`?
6. Define a function `listPrint(L)` that prints the elements of a list, one per line. (Remember my admonition to prefer `for` loops to `while` loops.)
7. Define a function `listPrint2(L)` that prints the elements of a list all on one line separated by a single space. To use `print()` to produce output without a trailing newline character use the `end=""` keyword parameter as in

```
print(x, y, z, w, end="")
```

Of course you can have as many things as you want before the `end=`.

8. Assume that `D` has been assigned a value as follows:

```
D = { 't': 2, 'e': 1, 's': 1, }
```

(Note: the trailing comma is allowed and putting it in makes subsequent editing easier.)

What is `D['t']`? What is `D['a']`?

9. `D['a']` produced an error. The `get` method on dictionaries allows you to specify a default value to return instead of an error. So `D.get('a', 0)` returns 0. Define a function `charCount(s)` that counts the number of occurrences of each different character in a string, returning a dictionary that maps each character to its count. For example, the dictionary `D` defined above is returned by `charCount('test')`. Your function should contain no `if` statements -- use the dictionary `get` method. (Note that we did something very similar to this in class.)