

# CSCI 220L

## Lab 7

### Learning Objectives

- Practice using list operations and methods.

### Activities

Create a Python file `lab7.py` containing the following functions. Make sure to use meaningful variable names, input prompts, and output messages.

#### 1. Warmup

Write a function `warmup()` that begins with the following line:

```
values = [5, "hi", 2.5, "there", Point(5, 10), "7.2"]
```

Then, the function should display each of the following using only the above list:

- (a) The string "hithere"
- (b) The string "hihihihihi"
- (c) The list `[2.5, "there", Point(5, 10)]`
- (d) The list `["hi", "there", "7.2"]`
- (e) The list `[2.5, 5, 7.2]`, where 7.2 is a float rather than a string
- (f) The sum of 5, 2.5, and 7.2
- (g) The number of items in the list

#### 2. IP addresses

Write a function `address()` that asks the user to enter four whole numbers separated by commas, and displays them separated by periods (the format of an [IPv4 address](#)). For example, the input 127, 0, 0, 1 should produce the address 127.0.0.1 (note that there is no period at the end).

#### 3. Word search

Write a function `search()` that asks the user to enter a sentence and a word in the sentence to search for. The function should then display the position of the start of the word in the sentence. For example, if the user enters the string `You're a wizard, Harry.` and asks to search for "wizard", the program should display 10 because "wizard" begins at the 10<sup>th</sup> character. Remember that Python uses 0-based indexing, so position 0 should be displayed as 1 for the user.

#### 4. Email addresses

Write a function `emails()` that asks the user how many usernames will be entered. For each username, it should generate the corresponding email by adding "@g.cofc.edu" to the end. After all the usernames have been entered, the function should display the generated emails in a comma-separated list. For example:

```
How many usernames will be entered? 2
Enter username #1: morrellaj
Enter username #2: rossh
Emails: morrellaj@g.cofc.edu, rossh@g.cofc.edu
```

5. Word count

Write a function `count_words()` that asks the user how many sentences will be entered. It should then prompt the user to enter each sentence and then display the number of words in it. For example, the sentence `The quick brown fox jumps over the lazy dog.` has 9 words.

6. Average word length

Write a function `word_avg()` that asks the user to enter a sentence and then displays the average word length. Round the result to 1 digit. For example, the sentence `The quick brown fox jumps over the lazy dog.` has an average word length of 3.9.

Upload `lab7.py` to the OAKS dropbox before the deadline. Make sure you have most of the exercises completed before your lab meeting.