

## CS1210 Computer Science I: Fundamentals

### Lab 4: More Syllable Counting

#### Introduction

In this assignment, you will be writing two short functions related to our just completed homework assignment. In the homework, you implemented `countSyllables(word)`, a function that counted how many syllables were in a word based on a particular definition of syllable (solution provided in template file for comparison). Here, we will consider a different definition of syllable, and implement it accordingly. Remember:

- (1) In the first lab assignment, many of you failed to insert your hawkid (not the same as your student ID number) in the tuple returned by the `hawkid()` function. Because it was the first lab, I corrected all of these by hand. From this point on, however, failure to properly complete the `hawkid()` function will result in a zero grade.
- (2) Similarly, please don't forget to complete the *header* of the file (the section of comments at the beginning of the file which should contain your name -- not mine -- and your section identifier). Remember, comments are identified as lines starting with the `#` character, which are simply ignored by Python.
- (3) Please include comments as appropriate.
- (4) Each of your functions should return the requested value (printing is not the same as returning).
- (5) You are responsible for making sure your solution file loads properly into Python, that is, that there are no mismatched parenthesis, improper indentation, and so on. To this end, it is important that you edit your file in IDLE or another programmer's editor. Files edited in Word, Wordpad, or other non-programmers editors generally don't work and will receive zero credit.

#### 1. `isVowel(word, i)`

`isVowel(word, i)` returns True if the *i*th character of *word* is a vowel, where the definition of vowel is as follows:

- 'aeio' are always vowels;
- 'y' is a vowel unless it is the first letter of the word;
- 'u' is a vowel unless it follows 'g' or 'q'; and
- 'w' is a vowel when it follows a vowel.

You can assume *word* is all lower case. Thus:

```
[ isVowel('detestable', i) for i in range(len('detestable')) ]
[False, True, False, True, False, False, True, False, False, True]
>>> [ isVowel('quebec', i) for i in range(len('quebec')) ]
[False, False, True, False, True, False]
```

#### 2. `countSyllables(word)`

Unlike in Homework 1, every collection of consecutive vowels (as just defined) counts as one syllable, within the following constraints:

- words of 3 or fewer letters always count as one syllable;
- trailing -es, -ed and -e (except for -le) are ignored.

Thus:

```
>>> countSyllables('awe')
1
>>> countSyllables('Quebec')
2
>>> countSyllables('detestable')
4
```

## Methods

For paired assignments, you should always login as one of the two partners and work in that partner's directory (in other words, don't try to switch from one machine to the other). In every lab, you will turn in just **one** solution, with both partner's names in it. **Important: you must upload your solution prior to the end of discussion section; no late labs are accepted.**

- (1) Download the Python file template provided and save it to your local machine (on the Desktop is fine).
- (2) Open the file using IDLE3.
- (3) The file contains a special function *hawkid()* along with function *signatures* for each of the functions in the assignment.
- (4) Complete the *hawkid()* function according to the instructions given in the template file. **Important: a correct version of this function is required by the autograder to properly credit you for your work.**
- (5) Complete each function by replacing the placeholder body of that function with the appropriate expression (you should alternate which partner is "driving" and which partner is "navigating" on each function or at least for every two functions).
- (6) You should test each of your functions in the Python REPL.
- (7) You should make sure your Python file loads and runs properly; files with syntax or indentation errors will receive no credit.
- (8) Upload your Python file to ICON. Note that only the last file updated will be graded. **Important: you need upload only one file to one partner's ICON account; just be sure you include all the partner's names in the *hawkid()* function.**

Because we give partial credit, you should consider uploading your Python file to ICON several times (each time making sure the file loads and runs without error) over the course of the lab period to make sure all completed work gets graded.

**Finally, don't forget to fill out the lab 4 survey**, which is open and available to you until midnight next Monday (October 8). Failure to fill out the survey may result in less-than-full-credit on the assignment.