

LAB S02 – StringUtil

In this lab, you will use the `String` methods to modify a `String` object. You will create a `StringUtil` class and write six static methods.

The starter code consists of a `StringDriver` class (check Canvas).

Your tasks are:

- 1) Write a method `reverse` that receives a `String` parameter and returns a `String` that is the exact reversal of the characters in the received `String`.
- 2) Write a method that “cleans” a `String`. A cleaned `String` has no punctuation or spaces and is all lowercase letters. The method should return the cleaned `String`.
- 3) Write a method that receives a `String` and returns a boolean value; the method returns `true` if the `String` is a palindrome and `false` if it is not. A word is a palindrome if it reads the same forwards and backwards. For example, the word *level* is a palindrome.

A phrase or sentence may also be a palindrome if we ignore spaces and punctuation, such as:

Madam, I'm Adam
A man, a plan, a canal: Panama

Your method should determine if a `String` is a palindrome whether it is a single word or an extended phrase.

- 4) Write a method that receives a `String` and returns the position of the first vowel (not y) in that `String`.
- 5) Write a method that receives a `String` that represents a single word and converts the word into Pig Latin, returning the new Pig-Latinized word. Here is how to translate a word from English to Pig Latin:
 - a. If there are no vowels in the `englishWord`, then `pigLatinWord` is just `englishWord` + “ay”. For example, “my” becomes “myay” and “why” becomes “whyay”.
 - b. If `englishWord` begins with a vowel, then `pigLatinWord` is just `englishWord` + “yay”. For example, “elephant” becomes “elephantyay”.
 - c. Otherwise, `pigLatinWord` is `end` + `start` + “ay”, where `end` and `start` as defined as:

`start` is all of `englishWord` up to (but not including) the first vowel.
`end` is all of `englishWord` from the first vowel on.

For example, “computer” becomes “omputercay” and “school” becomes “oolschay”

- 6) Write a method that receives a `String` that represents an entire sentence and translates it into Pig Latin. Extra credit if you process capitals and punctuation correctly.

Astahay alay istavay, abybay! – The PigLatinator

Criteria

- 1) Write pre and post conditions for each method you write for this lab.
- 2) You may not use any existing `String` methods other than the “big seven” presented in class: `length`, `substring`, `charAt`, `compareTo`, `equals`, `indexOf`

Submission

- 1) Submit your code for this lab on a Googly Doc through Canvas by 11:59 pm on Tuesday, January 14.