

CSCI 161: Introduction to Programming I
Lab 8: Pig Latin Translation (Using Objects and Methods, String Processing)
Due 11/11/08 by 11:59 PM

Goals

Write a program that converts English text into Pig Latin. As input take a sentence or phrase from the user, and then translate it into Pig Latin.

The rules for converting to Pig Latin are as follows.

1. Remove the first letters of a word, until you reach a vowel. Add a hyphen to the removed letters and then append this to the end of the remaining part of the word. For example, "projects" becomes "objects-pray" and "hello" becomes "ello-hay".
2. If the word begins with a vowel, simply append a dash followed by "ay". For example, "example" becomes "example-ay" and "all" becomes "all-ay".
3. The phrase "CNN projects votes, and so does Fox" becomes, "-CNNay ojects-pray otes,-vay and-ay o-say oes-day ox-Fay".

Overview

1. Start a new **project** in Java – call it "Lab8"
2. Start a new **class** within the new project, call it "PigLatin"
3. Using **comments** to write your name and information about this class.
4. Ensure you comment appropriately. Also notice the indentations that occur after each curly bracket. (**control, shift, f**)

Code Completion

For this lab, you will be completing code. **Pink is an indication for you to complete the code – this includes comments (//)**. Your comments will show me that you understand the code - I expect some investigation and exploration from your part.

```
*****  
  
// What does this program do?  
// Student Name  
// Professor  
// Class  
  
[import the appropriate library(ies)]  
  
public class PigLatin {  
    public static void main(String[] args) {  
        [your program should start with this statement, "This program  
        converts your text into Pig Latin]  
  
        [print new line]  
  
        [create Scanner object]  
        [ask user to enter a word or phrase]  
        [have your program accept the phrase or word as a string]  
  
        [call the convertPhrase method with the actual parameter called  
        "phrase"]  
    }  
  
    // method to convert a phrase to Pig Latin, breaking it up into words that  
    // are individually converted (by another method)  
    [create method called convertPhrase with the formal parameter "phrase" of  
    type String] {
```

```

String word = ""; //

for (int i = 0; i < phrase.length(); i++) {
    char ch = phrase.charAt(i);

    if (ch == ' ') { //
        if (word.length() > 0) {
            convertWord(word);
            word = "";
        }
        System.out.print(" ");
    } else {
        word += ch;
    }
}

if (word.length() > 0) { //
    convertWord(word);
}
System.out.println();
}

// method to convert a word to Pig Latin
[create method called convertWord with formal parameter "word" of type
String] {

    boolean seenVowel = false; //
    String chars = ""; //
    for (int i = 0; i < word.length(); i++) {

        char ch = word.charAt(i); //

        if (!seenVowel) { //

            if ("aeiouAEIOU".indexOf(ch) != -1) { //
                [set seenVowel to be true]
                System.out.print(ch);
            } else {
                chars += ch;
            }
        } else {
            System.out.print(ch);
        }
    }
    System.out.print("[      ]" + chars + "[      ]"); //
}
}

```