

# Lab Assignment 7

## Description:

You are to write a program to compute the statistics of the characters and words in a line of text. You are to read in a line of text from the user/file and report back the number of characters, number of words, and number of vowels in the line. To do so, you are to write three functions: 1) to report the number of characters, 2) to report the number of words, and 3) to report the number of vowels in the line. These results are then reported to the user from your main () routine as follows:

There are 100 characters, 10 words, and 20 vowels in the line.

## Procedure for lab7.c:

1. Input a line of text (from user or file). There can be a maximum of 225 characters in the line. Read in the line using the `gets()` or `fgets()` functions, which are defined in `stdio.h`
2. Once the line is read, the function to count the characters is to be called. Your prototype for such a function might be:  

```
int count_char(char a[], int length);
```
3. Next, call the function to count the number of words (punctuation may be interpreted to be part of a word). Your prototype for such a function might be:  

```
int count_words(char a[], int length);
```

Hint: Count the number of spaces.

4. Finally, you will count the number of vowels in the line. Your prototype for such a function might be:

```
int count_vowels(char a[], int length);
```

5. Generate a word length histogram. Count the number of words that are composed of 1 character, 2 characters, 3 characters, etc., stopping with those words that are 10 characters or more. **Step 5 of this procedure is Extra credit (2 lab points)**

6. Test lines:

- a. *I get the sense this island just served you up a heapin' platter of cosmic payback.*
- b. *What can I do you for Stay Puff?*
- c. *Y'know, a less magnanimous man than I might be thinkin' he could beat the everlivin' snot outa you right now without fear of reprisal.*

## Deliverables (please staple and don't forget your name):

- Printouts of lab7.c source code file.
- Printout of your results for the test lines.