COP4342 - Fall 2018
Assignment 9
Word Index

Objectives: Learn how to use explicit and automatic memory variables, the exists function, the substitution command, the string concatenation operator, pattern matching, and more experience with hashes, the sort operator, and formatted output.

Instructions: Your assignment is writing a Perl program called *words.pl* that reads in text from the diamond operator and writes the words in alphabetical order to standard output. Each word should consist of two or more characters, start with a letter, and the remaining characters consist of letters, digits, and under- scores. Along with each word, you should also write the number of times that it occurs and the line numbers in ascending order on which it was found. Since a word may or may not be capitalized, you should convert each word encountered to have lowercase letters only.

Consider the following input:

```
#!/usr/bin/perl -w

use strict;

# This line will print a hello world line.
print "Hello world!\n";

exit 0;
```

The output should be formatted as follows. Each line should first contain the word, where each word is printed in a right justified field that is as wide as the longest word encountered. Afterwards, print a colon and a blank. Next, print the number of times that the word was encountered as a four digit right justified field. Next, print " times, lines: ". Finally, print the list of line numbers in ascending order on which the word was encountered. If a word appears on a line more than once, then just print the line number once.

Below is the output of the program using the input above.

```
   bin:    1 times, lines: 1
  exit:    1 times, lines: 8
 hello:    2 times, lines: 5, 6
  line:    2 times, lines: 5
  perl:    1 times, lines: 1
 print:    2 times, lines: 5, 6
strict:    1 times, lines: 3
  this:    1 times, lines: 5
   use:    1 times, lines: 3
   usr:    1 times, lines: 1
  will:    1 times, lines: 5
 world:    2 times, lines: 5, 6
```

Submission: You should create a tar file formatted as 'Lastname_Firstname_Assignment9.tar' containing your *words.pl* Perl program and submit the file through Canvas's 'Assignments' section **before** the beginning of class on 11/08/18. Sample command to put files in a tar file: tar -cvf yourfile.tar inputfile1 inputfile2. Sample command to extract the files from the tar file: tar -xvf yourfile.tar.