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ICS 312

Homework Solution #20

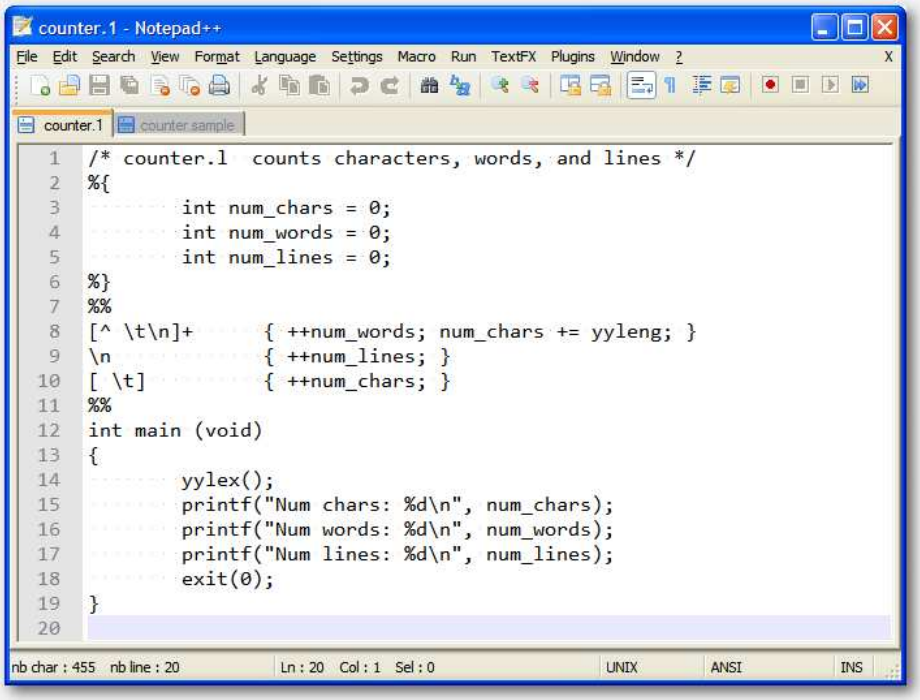
Due Date: November 14, 2009

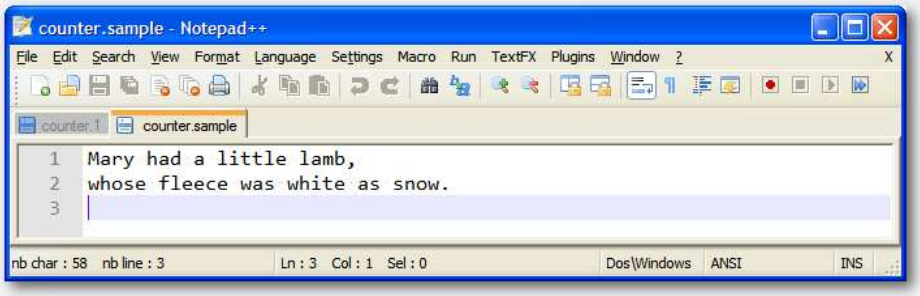
Lex Homework: Counting Vowel-Consonant Pairs

Part I: Repeat the instructed procedures to count numbers of chars, words, and lines.

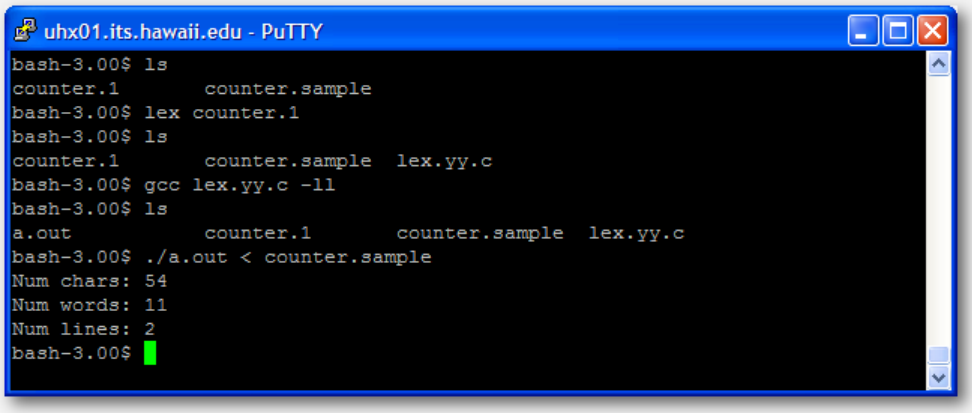
Procedure: Note that the new `uhunix` server has `lex` and `yacc` installed, so you can do the homework on `uhunix` if you like. The following procedure was done on `uhunix`.

First, create two files, `counter.1` and `counter.sample`. The contents of these files are shown below:



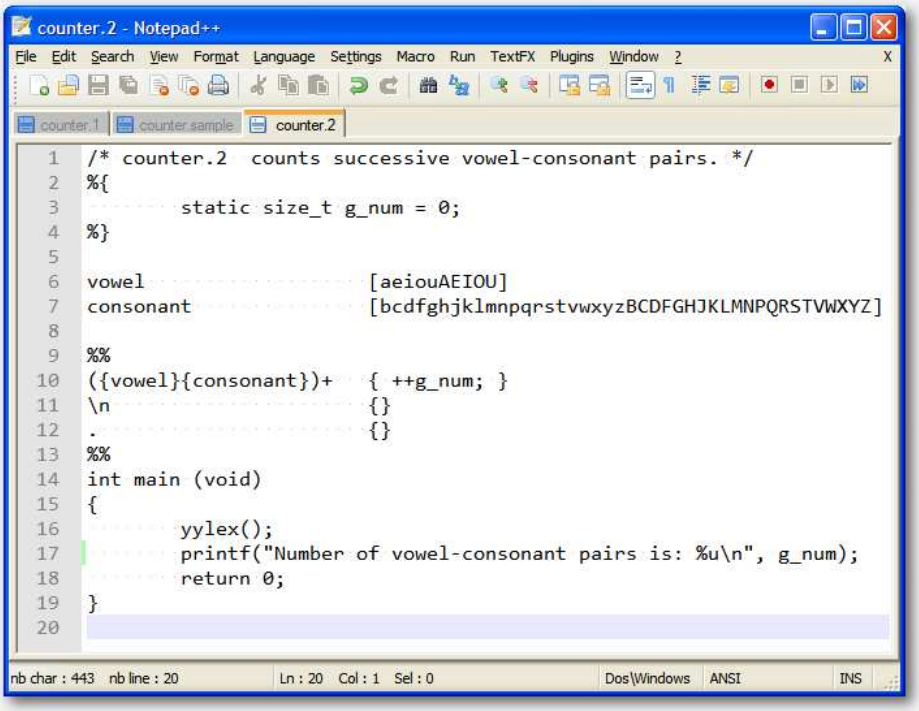


Transfer your files to `uhunix`, and then use `lex` to generate the C file, `lex.yy.c`. Compile `lex.yy.c` with `gcc` using the `-ll` flag to link the `lex` library, `libl.so`, with your program. This generates an executable file named `a.out`. Then execute `a.out`, redirecting `counter.sample` for standard input.

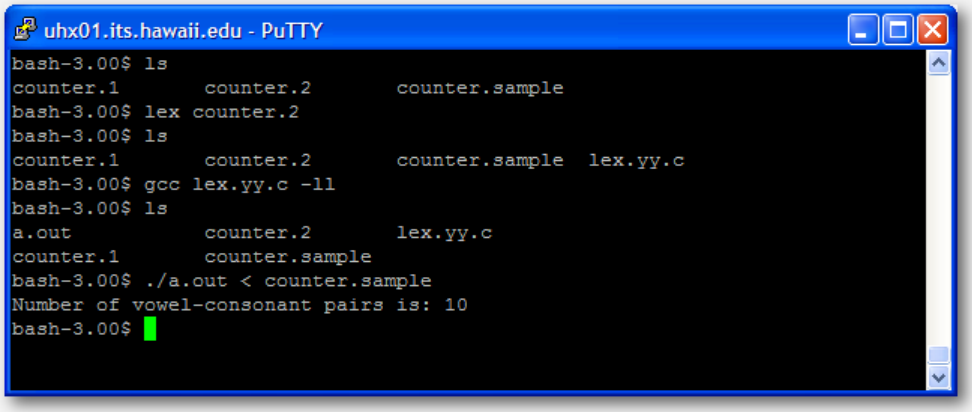


Part II: Alter the program so that it instead counts sequences of successive vowel-consonant pairs.

Procedure: Create a `counter.2` file that defines a grammar that will count sequences of successive vowel-consonant pairs. The contents of the file are shown below:



Transfer your `counter.2` file to `uhunix`, and then use `lex` to generate the C file, `lex.yy.c`. Compile `lex.yy.c` with `gcc` using the `-ll` flag to link the `lex` library, `libl.so`, with your program. This generates an executable file named `a.out`. Then execute `a.out`, redirecting `counter.sample` for standard input.


uhx01.its.hawaii.edu - PuTTY
bash-3.00$ ls
counter.1 counter.2 counter.sample
bash-3.00$ lex counter.2
bash-3.00$ ls
counter.1 counter.2 counter.sample lex.yy.c
bash-3.00$ gcc lex.yy.c -ll
bash-3.00$ ls
a.out counter.2 lex.yy.c
counter.1 counter.sample
bash-3.00$ ./a.out < counter.sample
Number of vowel-consonant pairs is: 10
bash-3.00$