CSC111 Introduction to Computer Science Fall 2017

Lab 7 – Reading Files and Finding Antonyms

In this lab we will implement an application to find antonyms. Part of this project is to enable you to begin to make your own decisions about class and method organization. Unlike previous labs, this one specifies the behavior of your program, but not the organization of methods and classes.

Your program will:

1. Read a file named "antonyms.txt". Each line of the file contains two words that are antonyms of each other. The file can be downloaded from **http://menehune.opt.wfu.edu** Optional: Let your program announce the number of word pairs found in the file.
2. Store the antonyms in a table. Assume there are no more than 1000 word pairs.
3. Enter the user-loop:
   (a) Prompt the user for a word and read it from the keyboard.
   (b) Search your table for the user-supplied word.
      i. Your search should check both words in the pair.
      ii. If the word is found, print the word and its antonym
      iii. otherwise, print "not found".
   (c) If the user enters a period alone on a line, then your program should exit.[1] Otherwise, return to the prompt to read another word.

Note: The words in the file are alphabetized by the first word. If you use a linear search, your search method may find the target word as either the first word in the pair or as the second word in the pair. For example, 'right' is found as the second word when the first word is 'left'. In this case the output should still be:

```
word: 'right'  antonym: 'left'
```

Sample Session:

```
gottlieb% javac antonyms.java
gottlieb% java antonyms
919 word pairs found.
--> fast
Word: fast  Antonym: slow
--> stop
Word: stop  Antonym: go
--> go
Word: go  Antonym: come
--> hello
Word: hello  Antonym: goodbye
--> .
```

[1] Suggestion: When your program starts, print a message reminding the user how to end the program.

Turn In:

Save all your work in a directory named "Lab7". Change to your home directory (the parent directory of "Lab7"), and create a file named "lab7.tar" using the command:

```
tar cf lab7.tar Lab7
```

Use `sftp` to upload the file "lab7.tar" to your account on telesto.