AP Computer Science Name _____
Cabbages Lab

Objective: use String objects, and sorting

1. In this lab, you will read in a text file, echoing each word to the screen, one word per line, remembering the longest word. Print the current word count and a space before each word. After all the words have been read in, display the longest word with a message.

   For example, if the above paragraph were the entered text, the output would be:

```
Words found in text --
    1 In
    2 this
    3 lab,
        :
    50 message.
    The longest word in the text is <remembering>.
```

For your text file, use the example from class, "cabbages.txt". You may obtain a copy of it from the class folder.

2. Store all the words found in the text file, excluding punctuation, into an array of strings, eliminating duplicates and converting all to lowercase. Sort this array alphabetically. Finally display this sorted array of words, preceded by the index of each word.

```
Words sorted alphabetically with duplicates removed --
    0 a
    1 after
    2 all
    3 been
        :
```

Extra Credit:

grep (**g**lobally search for the **r**egular **e**xpression and **p**rint the lines) is an utility program from UNIX that scans a file for a given string and prints all lines containing the string. Modify your program to "grep" a phrase and display the line number and each line containing it, highlighting the phrase. Do not worry about wrapped phrases. For example, using the opening paragraph, the call

grep("the longest word");

would display

Line 2: remembering <the longest word> print the current word count and a space before each word.
Line 3: After all the words have been read in, display <the longest word> with a message.

If the phrase does not appear in any line, state that.