

In this homework, you will be writing a short program in Python to find duplicate words in a file. This assignment focuses on Chapter 6, specifically reading data from a file.

### Program Features

A common mistake when composing a document is duplicating a word ("the the"). This is a big enough problem that Microsoft Word and other text editing software will mark these mistakes as errors. In this assignment, we will develop a short Python program that will find these duplicate words and alert the user by printing out a simple message. I suggest using a for loop to read the file data line by line. Once you have a line you will need to perform further string manipulations to determine if there is a duplicate word.

Given the following (slightly mangled) text stored inside of quote.txt:

```
He that would make his own liberty liberty secure,
must guard even his enemy from oppression;
for for if he violates this duty, he
he establishes a precedent that will reach to himself.
-- Thomas Paine
```

Running your program would produce the following output (user input is green):

```
Enter file name: quote.txt
Found word: "liberty" on line 1.
Found word: "for" on line 3.
Found word: "he" on line 4.
```

As shown above, your program should also be able to find duplicate words across lines in the input file.

### Helpful Hints

We haven't gotten to lists yet, but we can make use of one for this assignment without knowing all the details. Here is an example of how to break the words in a line into separate strings:

```
line = "This is a line from a file"
words = line.split() # We saw split() in Chapter 4. It will break up
                     # our string into just the words (no whitespace)
                     # and maintain the order. So the variable words
                     # contains "This", "is", "a", "line", "from",
                     # "a", and "file".

# To access those individual words (separate strings) use a for loop:
for word in words:
    print(word)
```

Each iteration of the for loop will print out a word. The variable word becomes "This", then "is" and so on, until all of the words have been printed. The result of the loop is shown below:

This  
is  
a  
line  
from  
a  
file  
,

#### What'to'Submit'

For'this'assignment'you'should'submit'your'hw6.py'file.'

This'assignment'will'be'graded'automatically.'Test'your'programs'thoroughly'before'submitting'  
them.'"Make'sure'that'your'programs'produce'correct'results'for'every'logically'valid'test'case'you'  
can'think'of.'"Do'not'waste'submissions'on'untested'code,'or'on'code'that'does'not'run'with'the'  
supplied'code'from'the'course'website.'

WebUCAT'will'assign'a'score'based'on'runtime'testing'of'your'submission;'your'best'score'will'be'  
counted;'the'TAs'will'later'verify'that'your'best'submission'meets'the'stated'restrictions,'and'assess'  
penalties'if'not.'

#### To'submit'this'assignment:'

1. Visit'<http://webucat.cs.vt.edu>'in'your'web'browser.'
2. Enter'your'Virginia'Tech'PID'and'password'in'the'appropriate'fields'on'the'login'screen,'  
and'make'sure'that'Virginia'Tech'is'selected'as'the'institution.'Click'Login.'
3. The'WebUCAT'home'screen'will'display'useful'announcements'and'assignments'that'are'  
currently'accepting'submissions.'Find'the'assignment'that'you'want'to'submit'in'the'table,'  
and'click'the'"Submit"'button'next'to'it.'
4. Click'the'Browse...'button'and'select'the'file'you'want'to'upload.'The'homework'  
assignments'and'programming'projects'for'this'course'should'be'self-contained'in'a'single'  
.py'file,'so'you'can'simply'select'that'one'file.'
5. Click'the'Upload'Submission'button.'The'next'page'will'ask'you'to'review'your'selection'to'  
ensure'that'you'have'chosen'the'right'file.'If'everything'looks'correct,'click'Confirm.'

The'next'page'will'show'that'your'assignment'is'currently'queued'for'grading,'with'an'estimated'  
wait'time.'This'page'will'refresh'itself'automatically,'and'when'grading'is'complete'you'will'be'  
taken'to'a'page'with'your'results.'

## Pledge'

Each'of'your'program'submissions'must'be'pledged'to'conform'to'the'Honor'Code'requirements'for'this'course.'"Specifically,'you'must'include'the'following'pledge'statement'in'the'submitted'file:'

```
# <include a description of the purpose of this file/project/package>
#
# @author <name and surname> (your VT PID)
# @date   <the date>
#
# Virginia Tech Honor Code Pledge
# On my honor:
#
# - I have not discussed the Python language code in my program with
#   anyone other than my instructor or the teaching assistants
#   assigned to this course.
# - I have not used Python language code obtained from another student,
#   or any other unauthorized source, either modified or unmodified.
# - If any Python language code or documentation used in my program
#   was obtained from another source, such as a text book or course
#   notes, that has been clearly noted with a proper citation in
#   the comments of my program.
# - I have not designed this program in such a way as to defeat or
#   interfere with the normal operation of the Web-Cat Server.
#
# <your name>
```

Failure'to'include'this'pledge'in'a'submission'will'result'in'the'submission'being'disallowed'during'code'review.'