

COMP 171

Scripting Language Practicum

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If and Alternatives

Overview

Gain experience using control structures in Python. Understand how decisions are made with Boolean operators (and, or, ...). Learn how to make decisions in your script.

The assignment will read in a file (provided) and generate a new file with information about the input file. Some of the information will be calculated for each line and some for the whole file.

The new file generated will be a .csv file that can be read in Excel. A good way to do further processing or graphing of data from your future scripts!

What you need to do

Follow these instructions fully. You will write a program that reads a file, processes each line of the file checking for things in the line. I suggest you write the program an item or two at a time trying it out as you go along. Get each part to work before starting the next.

1. Inside your script open (for reading) the file ToProcess.txt provided with the assignment.
2. Create a new .csv file that will hold the output of your program.
 - a. Call it MyResults.csv
 - b. Put your name and the date you started working on the assignment in the first line of the output file.
 - c. Make the second row of your output file have these columns as text strings:
 - i. Line Number
 - ii. Line Length
 - iii. Num Words
 - iv. Start of Line
3. Read the input file one line at a time using a for loop
4. Keep these tallies for the *entire* input file:

- a. Total number of lines read
 - b. Total number of words in the file (all lines)
 - c. Total number of words a or the in the file
 - i. Count A, a, The, the, THE
5. For each line in the file calculate these items and put them into a row of your output file, each item below will become a separate column in your output data:
 - a. Line number (starting at 1) of this line
 - b. Length in characters of this line
 - c. Number of words in this line
 - i. Hint: remember the string function split
 - d. The first three words of the line, combined together into a single column with a % character between each word.
 - i. If there are less than three words on the line, substitute *none* for the empty word
6. Once all the lines are processed and all the individual rows written to your output data:
 - a. Write a line saying "File Summary" to the output
 - b. Write the next line with these column heading for your summary data:
 - i. Total Lines
 - ii. Total Words
 - iii. Total A and The
 - c. For the final line of your output file, put the numbers you calculated (see 4 above) under the headings you just wrote.
7. Close the file and print "Processing done" (or something similar) to the IDLE window (just so you know your program is finished).
8. Open the .csv file in excel and see if it is correct
 - a. Update your program as necessary
9. Save your final program as a .py file
10. Keep your final .csv output file as well

How and what to turn in

Turn in your .py file and your .csv file with your results. You can attach two files to the same Bb assignment. You must be on time to get points.

Grading

20 points in Assignments for a .py file that runs in Python 3 and has all the necessary items. -5 for each missing item. 0 points if your program has errors at compile or run time. -5 if you don't turn in your .csv file with complete information. -2 for minor errors.