The purpose of this lab is to give you practice manipulating strings and working with files.

Specifications

You will need to create a file `lab7.py` that meets the following specifications:

- The first line in the file is a comment that includes your name.
- The second line in the file is a comment that indicates which version of the course you're taking (CPS 300 or CPS 500).
- The rest of the file contains your solution to Task #2. As always, strive for legible code with a combination of useful comments and meaningful variable names.

Task #1: Calculating Average Word Length

Write a Python script that reads in a phrase, calculates the average word length in that phrase, and then displays the result.

As an example, the phrase `"Thirty days hath September"` has an average word length of 5.75 characters, and the phrase `"All the rest have thirty-one"` has an average word length of 4.8 characters.

You don't need to submit your solution to Task #1. Instead, you will expand upon it to complete Task #2.

Task #2: Processing a File

Once you have Task 1 working, extend it as follows:

- Prompt the user for the name of an input file and an output file
- Open the input file for reading, and open the output file for writing

  As mentioned in lecture, there is more than one way to read from a file, and we'll be discussing several options later on. For this lab, use `readlines`.
- *For each line in the input file:*
  - Compute the average word length for the line
  - Write to the output file: the line number, followed by a single space, followed by a colon (:) and a single space, followed by the average word length
- When done, close both the input and output files.

As an example, suppose the input file contains exactly the following:

```
Thirty days hath September
April, June, and November
All the rest have thirty-one
Except February, which has twenty-eight
```

Then the output file should be:

```
1 : 5.75
2 : 5.5
3 : 4.8
4 : 7.0
```

1 What and How to Submit

Submit `lab7.py` (make sure your name's included!) through Blackboard.

In addition: Print out `lab7.py` and hand it in.