CSE2031

Lab 7
Summer 2016
Practice Questions

Here are some practice questions to test your C abilities

1. Write a program that reads a person name on the form first name followed by either middle name and last name or just last name. Then the program should display the name as last name followed by comma, then first letter of the first name followed by a period. For example

Input	Output
John Smith	Smith, J.
John D. Smith	Smith, J. D.
John David Smith	Smith, J. D.

The words in the input should be separated by any number of white spaces.

2. Write a program that calculates the average word length in a sentence. The input is a stream of words with no punctuations except the period at the end of the sentence. The program then displays the average word length. If the first character is a period, the program should display an appropriate message. The program should also ignore everything after the period.

3. Write a program that accepts an integer from the standard input and displays the positions of the digits that are repeated.
   For example, if the input is 56257278 the output should be 0 2 3 4 5 6

   Explanation: `56257278`
   Positions   `01234567`
   Repeated   `rnrrrrrn`

   where `r` means repeated and `n` means not repeated. Note that the first digit (5) is at position 0.

4. Write a program that reads a text file on the form
   `Student first name, last name, email address, three test scores`

   Student names (first and last) are a maximum of 20 characters each. Email address is a maximum of 20 characters. Then test scores are out of a 100.

Each record (line) is read and stored in a struct with the above fields. Fields are separated by white spaces.

For simplicity, you should allocate (reallocate) memory each time you read 5 records.

Then your program should read inquiries from the user, the query is on the form
`command   data`

The allowed commands are
`Tn   lastname`
where `n` is either 1, 2, or 3 followed by student last name

Your program should display
first name, last name of the student followed by result of test n

`Av lastname`
Your program should display firstname lastname and the average of the 3 scores with 2 decimal places

`CAV Tn`
where `n` is 1, 2, or 3. Your program should display the class average for test n.

`CAV`
Your program should display class average for all the three tests
average_test_1 average_test_2 average_test_3