

Week 6 Practice Problems

#1. Redo Q1b and Q1c from Week 5 but this time use a for-loop.

#2. Redo Q2b from Week 5 with a for-loop.

#3. You are given two pieces of data:

1. A string s of length n .
2. An integer k , where k is a factor of n .

Because n is divisible by k , we can split string s into n/k sub-strings where each segment consists of a contiguous block of k characters.

Write a program that gets the user to enter a string and an integer k and prints the segments in order but have the characters in each segment reversed and separate the segments by space. Example:

Please enter the string: University

Please enter k: 2

nU vi re is yt

Please enter the string: Hello!

Please enter k: 3

leH !ol

It is a good idea to check if k does indeed divide n evenly. If it doesn't print an error message and exit. If it does, do the splitting and reversing as described above.

Hint: Break the problem into three steps: 1. Get the input and check. 2. Break the string into n/k substrings. 3. Reverse each sub-string and print it. You should write at least one function to do this.

Hint #2: The main algorithm for doing this (e.g. after the input, etc) is only a few lines of string manipulation. If you are writing a lot of code, stop and re-think your approach.

#4. Write a function that takes in a string of any length as a parameter and prints out a table that specifies the number of times each vowel (a,e,i,o,u) appears. Your function should take be able to identify a vowel whether it is upper or lower-case.

- a. Write the function using the `count()` method.
- b. Write the function without using the `count()` method. (Hint: nested loop)

#5. Redo Q5 from Week 5 but this time use a loop rather than string methods.