

# COMP161

## Lab 5 & Homework 5

### Spring 2017

For this lab you'll get some practice working with the string class and using class objects and methods.

#### *A function for strings*

The following functional procedure let's you continue to practice the basics while requiring that you use some key methods from the string library.

Design and develop the function *shorten* which takes a string as input and for strings with length greater than 10, it returns a string containing the first 5 characters and the last 5 characters joined by ellipses. For example, the string "this is a long string" would get shortened to "this ...string" and "abcdefghijklmnopqrstuvwxyz" would get shortened to "abcde...vwxyz". If the string's length is less than 10, then it is returned as is from *shorten*.

In addition to developing a set of unit tests for this procedure, write a main procedure that provides a basic REPL for testing this procedure. Instead of using *cin* and the input operators, use the string library procedure *getline* to read in an entire line of text to a string<sup>1</sup>. The shortened version of that line should be reported back to the CLI by your program.

<sup>1</sup> <http://www.cplusplus.com/reference/string/string/getline/>

When you're done, or at the end of the lab period, submit your source documents and Makefile using *handin*. The assignment designation is obviously *lab5*. If you didn't complete the program during lab, then complete it and submit the finished code as *hwk5* by the start of class on Wednesday 3/1.

#### *More practice with strings and new material?*

If you want to play around with string methods more, you should consider writing up some tests like those seen in lecture notes 8. I highly recommend you play with some of the mutation based methods and writing tests to verify expected mutation effects as this is a new phenomenon.