

**CS3520 – Programming in C++
Fall 2015
Assignment 5**

Assignment

You are provided with a class `SList`, which is an implementation of part of the `forward_list` container interface from the C++11 STL. This class is a singly-linked list container.

The current `SList` implementation has a number of bugs. Write unit tests for the class and find and fix the bugs. Your test cases should have 100% coverage of public functions for the `SList` class. You only need to fix the bugs with the functions that are there; you do not need to implement new functions.

Edit the `SList.hpp` as necessary to fix any bugs; you should only need to make minimal changes. Use the CxxTest unit testing framework to write your test cases in `SListTestSuite.hpp`. You will need to download the CxxTest files yourself.

The website for CxxTest framework is:
<http://cxxtest.com/>

You can find the documentation for the `forward_list` class here:
http://www.cplusplus.com/reference/forward_list/forward_list/

Submission

Your submission should be a single zip file named `[LastnameFirstname]5.zip` including the following files:

`Makefile`
`SList.hpp`
`SListTestSuite.hpp`

For purposes of grading, assignments will be built and run on the CCIS Linux environment using `g++`. Assignments should include a makefile that builds the main program executable by default, and a `clean` target that removes everything but the source files and makefile. Assignments that are missing a makefile or have a makefile that does not build the program will lose style points.

For grading we will use the provided makefile with CxxTest located in the location it refers to. You do not need to submit CxxTest framework files.

Grading

Grading is broken down as:

- 30% - Bug fixing: Are the bugs with the `SList` class fixed?
- 60% - Tests: Are the tests well-structured and thorough? Do they make use of the appropriate `CxxTest` features?
- 10% - Style: Is the code well-structured with appropriate functions? Are the variable names suitably descriptive? Does the code have explanatory comments? Is there a working makefile?