

**CS3520 – Programming in C++
Fall 2015
Assignment 6**

Assignment

Part 1

You are provided with a C++ file `check.cpp` and text file `check.txt`. Use the tools covered in class to answer the questions in `check.txt` about `check.cpp`. Replace the [brackets] in `check.txt` with your answers.

Part 2

You are provided with two C++ files, `example1.cpp` and `example2.cpp`, and a `Makefile`. As implemented, they contain memory leaks. Modify the source in the files to use Boost smart pointers to manage memory such that the memory leaks are removed (and no other memory errors are introduced). Valgrind may be helpful in confirming there are no memory leaks. You will need to download the Boost files (version 1.59) yourself, though you should only need to use the headers (that is, you should not need to compile to Boost libraries).

The website for Boost is:

<http://boost.org/>

Submission

Your submission should be a single zip file named `[LastnameFirstname]6.zip` including the following files:

`check.txt`
`example1.cpp`
`example2.cpp`
`Makefile`

For purposes of grading, assignments will be built and run on the CCIS Linux environment using `g++`. Assignments should include a `makefile` that builds `example1` and `example2` executables from the corresponding source files by default, and a `clean` target that removes everything but the source files and `makefile`. Assignments that are missing a `makefile` or a have `makefile` that does not build the program will lose style points.

Grading

Grading is broken down as:

- 45% Part 1 - Were the questions about `check.cpp` code answered correctly?
- 45% Part 2 - Were memory leaks in `example1.cpp` and `example2.cpp` fixed appropriately?
- 10% Style - Style: Is the code well-structured with appropriate functions? Is there a working makefile?