**Google Test:**

Google Test is a [unit testing](https://en.wikipedia.org/wiki/Unit_testing) library for the [C++ programming language](https://en.wikipedia.org/wiki/C%2B%2B), based on the [xUnit](https://en.wikipedia.org/wiki/XUnit" \o "XUnit) architecture. This section describes some good reasons why we decided to use this framework.

* Google Test is designed to be portable and it works around various bugs in various compilers and environments
* Google's test framework has built-in assertions that are deployable in software where exception handling is disabled
* Running the tests is simple and it’s easy to write assertions that generate informative messages
* Google Test automatically detects your tests and doesn’t require you to enumerate them in order to run them.
* Google's test framework provides excellent support for handling such situations. You can repeat the same test a lot of times using the Google framework

**gcov - coverage testing tool:**

gcov is a test coverage program. We used it in concert with GCC to analyze our programs to help create more efficient, faster running code and to discover untested parts of your program. We used gcov as a profiling tool to help discover where our optimization efforts will best affect our code.

gcov profiling tools helped us analyze our code's performance. By using gcov we found some basic performance statistics, such as:

* how often each line of code executes
* what lines of code are actually executed
* how much computing time each section of code uses