

For each of the tests, I ensured that I established that the collection was empty at the start, and that it met the qualifications of the test at the end. To ensure that things were functioning as I was adapting to the end condition for each test, I created assertions along the way for each of the tests. If one of those fails, then I would know that something is wrong. The most difficult part of this assignment for me was creating my own custom unit tests, one positive and one negative. I have worked with Unit Tests before, but not ones of this nature exactly. I kept making negative tests to ensure errors would be thrown, so it took me a while to come up with a positive test. I encountered no bugs in creating these unit tests.

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Running main() from c:\a\1\s\thirdparty\googletest\googletest\src\gtest_main.cc
[=====] Running 16 tests from 1 test case.
[-----] Global test environment set-up.
[-----] 16 tests from CollectionTest
[ RUN     ] CollectionTest.CollectionSmartPointerIsNotNull
[ OK      ] CollectionTest.CollectionSmartPointerIsNotNull (0 ms)
[ RUN     ] CollectionTest.IsEmptyOnCreate
[ OK      ] CollectionTest.IsEmptyOnCreate (0 ms)
[ RUN     ] CollectionTest.AlwaysFail
C:\Users\Ayden\source\repos\Module 4 Unit Test\Module 4 Unit Test\test.cpp(85): error: Failed
[ FAILED  ] CollectionTest.AlwaysFail (1 ms)
[ RUN     ] CollectionTest.CanAddToEmptyVector
[ OK      ] CollectionTest.CanAddToEmptyVector (1 ms)
[ RUN     ] CollectionTest.CanAddFiveValuesToVector
[ OK      ] CollectionTest.CanAddFiveValuesToVector (0 ms)
[ RUN     ] CollectionTest.IsMaxSizeGreaterThan
[ OK      ] CollectionTest.IsMaxSizeGreaterThan (0 ms)
[ RUN     ] CollectionTest.IsCapacityGreaterThan
[ OK      ] CollectionTest.IsCapacityGreaterThan (0 ms)
[ RUN     ] CollectionTest.DoesResizingIncreaseCollection
[ OK      ] CollectionTest.DoesResizingIncreaseCollection (0 ms)
[ RUN     ] CollectionTest.DoesResizingDecreaseCollection
[ OK      ] CollectionTest.DoesResizingDecreaseCollection (0 ms)
[ RUN     ] CollectionTest.DoesResizingDecreaseCollectionToZero
[ OK      ] CollectionTest.DoesResizingDecreaseCollectionToZero (0 ms)
[ RUN     ] CollectionTest.DoesClearEraseCollection
[ OK      ] CollectionTest.DoesClearEraseCollection (0 ms)
[ RUN     ] CollectionTest.DoesEraseEraseCollection
[ OK      ] CollectionTest.DoesEraseEraseCollection (0 ms)
[ RUN     ] CollectionTest.DoesReserveOnlyChangeCapacity
[ OK      ] CollectionTest.DoesReserveOnlyChangeCapacity (0 ms)
[ RUN     ] CollectionTest.OutOfRangeException
[ OK      ] CollectionTest.OutOfRangeException (1 ms)
[ RUN     ] CollectionTest.DoesResizeBringNewElementsWithinRange
[ OK      ] CollectionTest.DoesResizeBringNewElementsWithinRange (1 ms)
[ RUN     ] CollectionTest.DoesReserveChangeSize
[ OK      ] CollectionTest.DoesReserveChangeSize (0 ms)
[-----] 16 tests from CollectionTest (33 ms total)

[-----] Global test environment tear-down
[=====] 16 tests from 1 test case ran. (38 ms total)
[ PASSED  ] 15 tests.
[ FAILED  ] 1 test, listed below:
[ FAILED  ] CollectionTest.AlwaysFail

1 FAILED TEST

C:\Users\Ayden\source\repos\Module 4 Unit Test\x64\Debug\Module 4 Unit Test.exe (process 24020) exited with code 1.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```