Name: *Josh Seward*

Assignment: 9

Submission and Compilation

- Builds and Compiles Successfully

Complete & Correct: 25/25

- Unit Test Results:

```
[==========] Running 15 tests from 1 test suite.
[----------] Global test environment set-up.
[----------] 15 tests from RBTCollectionTest
[ RUN      ] RBTCollectionTest.CorrectSize
[       OK ] RBTCollectionTest.CorrectSize (0 ms)
[ RUN      ] RBTCollectionTest.SimpleFind
[       OK ] RBTCollectionTest.SimpleFind (0 ms)
[ RUN      ] RBTCollectionTest.SimpleRemove
[       OK ] RBTCollectionTest.SimpleRemove (0 ms)
[ RUN      ] RBTCollectionTest.SimpleRange
[       OK ] RBTCollectionTest.SimpleRange (0 ms)
[ RUN      ] RBTCollectionTest.SimpleSort
[       OK ] RBTCollectionTest.SimpleSort (0 ms)
[ RUN      ] RBTCollectionTest.CopyAndAssignment
[       OK ] RBTCollectionTest.CopyAndAssignment (0 ms)
[ RUN      ] RBTCollectionTest.RemoveNodeWithTwoChildrenRightCases
[       OK ] RBTCollectionTest.RemoveNodeWithTwoChildrenRightCases (0 ms)
[ RUN      ] RBTCollectionTest.RemoveNodeWithTwoChildrenLeftCases
[       OK ] RBTCollectionTest.RemoveNodeWithTwoChildrenLeftCases (0 ms)
[ RUN      ] RBTCollectionTest.AddRebalanceCheckLeftCases
[       OK ] RBTCollectionTest.AddRebalanceCheckLeftCases (0 ms)
[ RUN      ] RBTCollectionTest.RemoveRebalanceCheckLeftCases
[       OK ] RBTCollectionTest.RemoveRebalanceCheckLeftCases (0 ms)
[ RUN      ] RBTCollectionTest.AddRebalanceCheckRightCases
[       OK ] RBTCollectionTest.AddRebalanceCheckRightCases (0 ms)
[ RUN      ] RBTCollectionTest.RemoveRebalanceCheckRightCases
[       OK ] RBTCollectionTest.RemoveRebalanceCheckRightCases (0 ms)
[ RUN      ] RBTCollectionTest.SimpleHeight
[       OK ] RBTCollectionTest.SimpleHeight (0 ms)
[ RUN      ] RBTCollectionTest.RemoveHeight
[       OK ] RBTCollectionTest.RemoveHeight (0 ms)
[ RUN      ] RBTCollectionTest.RangeRemove
[       OK ] RBTCollectionTest.RangeRemove (0 ms)
[----------] 15 tests from RBTCollectionTest (0 ms total)

[----------] Global test environment tear-down
[==========] 15 tests from 1 test suite ran. (0 ms total)
[  PASSED  ] 15 tests.
```

- Performance Tests:

    - Test 1: Finished in 5.6267 s
    - Test 2: Finished in 7.7816 s
    - Test 3: Finished in 5.5765 s
    - Test 4: Finished in 9.3353 s
    - Test 5: Finished in 16.1996 s
    - Test 6: Finished in 4.524 s

Testing: 5/5

Format and Comments: 5/5

Discussion and Analysis: 3/5

- find-range and sort are $O(n)$

Total Score: 38/40