

Name: *Jonathan Smoley*

Assignment: 9

Complete & Correct:	42 / 48
Tests:	0 / 0
Format and Comments:	6 / 6
Writeup:	6 / 6

Total Score:	54 / 60
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Comments:

1. (-6) mem issue as reported by valgrind, which I think is due to your erase (e.g., the use of prev looks unnecessary, etc.)

Unit test output:

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==708327== Memcheck, a memory error detector
==708327== Copyright (C) 2002-2017, and GNU GPL'd, by Julian Seward et al.
==708327== Using Valgrind-3.15.0 and LibVEX; rerun with -h for copyright info
==708327== Command: ./hw9_test
==708327==
[=====] Running 21 tests from 1 test suite.
[-----] Global test environment set-up.
[-----] 21 tests from BasicAVLMapTests
[ RUN      ] BasicAVLMapTests.EmptyCheck
[      OK   ] BasicAVLMapTests.EmptyCheck (11 ms)
[ RUN      ] BasicAVLMapTests.InsertCheck
[      OK   ] BasicAVLMapTests.InsertCheck (4 ms)
[ RUN      ] BasicAVLMapTests.RValueAccessCheck
[      OK   ] BasicAVLMapTests.RValueAccessCheck (3 ms)
[ RUN      ] BasicAVLMapTests.LValueAccessCheck
[      OK   ] BasicAVLMapTests.LValueAccessCheck (3 ms)
[ RUN      ] BasicAVLMapTests.SimpleContainsCheck
[      OK   ] BasicAVLMapTests.SimpleContainsCheck (3 ms)
[ RUN      ] BasicAVLMapTests.MoreInvolvedContainsCheck
[      OK   ] BasicAVLMapTests.MoreInvolvedContainsCheck (2 ms)
[ RUN      ] BasicAVLMapTests.EraseCheck
==708327== Invalid read of size 8
==708327==    at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327==    by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327==    by 0x18DB21: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:112)
==708327==    by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_seh.h:75)
==708327==    by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_seh.h:75)
==708327==    by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==    by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==    by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==    by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==    by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void*) (testing/internal/gtest_seh.h:75)
==708327==    by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void*) (testing/internal/gtest_seh.h:75)
==708327==    by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== Address 0x4df1df8 is 24 bytes inside a block of size 32 free'd
==708327==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck.so.3.15.0)
==708327==    by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)

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==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DB21: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:112)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D9B1: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:106)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Invalid read of size 8
==708327== at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DCFA: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:115)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df1d98 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DCFA: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:115)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D98F: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:105)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M

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==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-jt2m.cpp:136)
==708327==
==708327== Invalid read of size 8
==708327== at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E0AC: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:121)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (testing::internal:391)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (testing::internal:375)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-jt2m.cpp:136)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-jt2m.cpp:136)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-jt2m.cpp:136)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-jt2m.cpp:136)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (testing::internal:391)
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (testing::internal:375)
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-jt2m.cpp:136)
==708327== Address 0x4df1d38 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E0AC: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:121)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (testing::internal:391)
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==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
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==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D96D: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:104)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (testing::internal:391)
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==708327==
==708327== Invalid read of size 8
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==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (testing::internal:391)
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==708327== Address 0x4df1f18 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
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==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E9E9: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:136)

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==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
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==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
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==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
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==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18DA17: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:109)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327==
==708327== Invalid read of size 8
==708327== at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18EBC2: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:139)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df1eb8 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_mem
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18EBC2: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:139)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D9F5: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:108)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==
==708327== Invalid read of size 8
==708327== at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)

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==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18ED9B: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:142)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==708327== Address 0x4df1cd8 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_mem
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18ED9B: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:142)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D94B: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:103)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==
==708327== Invalid read of size 8
==708327== at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18EF74: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:145)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df1f78 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_mem
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18EF74: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:145)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-

```

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==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18DA39: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:110)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327==
[ OK ] BasicAVLMapTests.EraseCheck (20 ms)
[ RUN ] BasicAVLMapTests.KeyRangeCheck
[ OK ] BasicAVLMapTests.KeyRangeCheck (11 ms)
[ RUN ] BasicAVLMapTests.SortedKeyCheck
[ OK ] BasicAVLMapTests.SortedKeyCheck (5 ms)
[ RUN ] BasicAVLMapTests.InvalidKeyCheck
[ OK ] BasicAVLMapTests.InvalidKeyCheck (30 ms)
[ RUN ] BasicAVLMapTests.NextKeyCheck
[ OK ] BasicAVLMapTests.NextKeyCheck (7 ms)
[ RUN ] BasicAVLMapTests.PrevKeyCheck
[ OK ] BasicAVLMapTests.PrevKeyCheck (7 ms)
[ RUN ] BasicAVLMapTests.DestructorCheck
[ OK ] BasicAVLMapTests.DestructorCheck (3 ms)
[ RUN ] BasicAVLMapTests.CopyConstructorCheck
==708327== Invalid read of size 8
==708327== at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x1960E9: BasicAVLMapTests_CopyConstructorCheck_Test::TestBody() (hw9_test.cpp:329)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df6008 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x1960E9: BasicAVLMapTests_CopyConstructorCheck_Test::TestBody() (hw9_test.cpp:329)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A26D1: AVLMap<char, int>::copy(AVLMap<char, int>::Node const*) const (avlmap.h:493)
==708327== by 0x1A2734: AVLMap<char, int>::copy(AVLMap<char, int>::Node const*) const (avlmap.h:498)
==708327== by 0x1A1636: AVLMap<char, int>::AVLMap(AVLMap<char, int> const&) (avlmap.h:171)
==708327== by 0x195FDB: BasicAVLMapTests_CopyConstructorCheck_Test::TestBody() (hw9_test.cpp:326)

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==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327==
[ OK ] BasicAVLMapTests.CopyConstructorCheck (5 ms)
[ RUN ] BasicAVLMapTests.CopyAssignmentCheck
[ OK ] BasicAVLMapTests.CopyAssignmentCheck (8 ms)
[ RUN ] BasicAVLMapTests.MoveConstructorCheck
[ OK ] BasicAVLMapTests.MoveConstructorCheck (5 ms)
[ RUN ] BasicAVLMapTests.MoveAssignmentCheck
[ OK ] BasicAVLMapTests.MoveAssignmentCheck (7 ms)
[ RUN ] BasicAVLMapTests.HeightEmptyCheck
[ OK ] BasicAVLMapTests.HeightEmptyCheck (1 ms)
[ RUN ] BasicAVLMapTests.SimpleHeightCheck
[ OK ] BasicAVLMapTests.SimpleHeightCheck (4 ms)
[ RUN ] BasicAVLMapTests.InsertRebalanceCheck
[ OK ] BasicAVLMapTests.InsertRebalanceCheck (22 ms)
[ RUN ] BasicAVLMapTests.EraseRebalanceCheck
==708327== Invalid read of size 8
==708327== at 0x1A2EAF: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19CB80: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:524)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df9420 is 48 bytes inside a block of size 56 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_mem
==708327== by 0x1A2DC6: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2E86: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19CB80: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:524)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A2AC9: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2B7D: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1AB5: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19C9E4: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:521)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327==

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==708327== Invalid read of size 8
==708327== at 0x1A2E9D: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x19D842: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:552)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== Address 0x4df9b20 is 48 bytes inside a block of size 56 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==708327== by 0x1A2DC6: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A2D1C: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A2E86: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x19D842: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:552)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A2AC9: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A2B57: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A2B7D: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x1A1AB5: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>
==708327== by 0x19D678: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:549)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327==
[      OK ] BasicAVLMapTests.EraseRebalanceCheck (15 ms)
[-----] 21 tests from BasicAVLMapTests (199 ms total)

[-----] Global test environment tear-down
[=====] 21 tests from 1 test suite ran. (238 ms total)
[ PASSED ] 21 tests.
==708327==
==708327== HEAP SUMMARY:
==708327==   in use at exit: 6,968 bytes in 181 blocks
==708327== total heap usage: 824 allocs, 643 frees, 155,719 bytes allocated
==708327==
==708327== LEAK SUMMARY:
==708327==   definitely lost: 1,384 bytes in 35 blocks
==708327==   indirectly lost: 5,584 bytes in 146 blocks
==708327==   possibly lost: 0 bytes in 0 blocks
==708327==   still reachable: 0 bytes in 0 blocks
==708327==   suppressed: 0 bytes in 0 blocks
==708327== Rerun with --leak-check=full to see details of leaked memory
==708327==
==708327== ERROR SUMMARY: 10 errors from 10 contexts (suppressed: 0 from 0)
==708327==
==708327== 1 errors in context 1 of 10:

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==708327== Invalid read of size 8
==708327== at 0x1A2E9D: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19D842: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:552)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== Address 0x4df9b20 is 48 bytes inside a block of size 56 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==708327== by 0x1A2DC6: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2D1C: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2E86: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
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==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A2AC9: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2B57: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2B7D: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1AB5: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19D678: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:549)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327==
==708327== 1 errors in context 2 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A2EAF: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19CB80: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:524)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== Address 0x4df9420 is 48 bytes inside a block of size 56 free'd
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==708327== by 0x1A2DC6: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A2E86: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x1A1B53: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char> >, int>
==708327== by 0x19CB80: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:524)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:

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==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A2AC9: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>>::Node* AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>>::operator[](const std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>&) const (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1A2B7D: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>>::Node* AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>>::operator[](const std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>&) const (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1A1AB5: AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>>::Node* AVLMap<std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>, int>>::operator[](const std::__cxx11::basic_string<char, std::char_traits<char>, std::allocator<char>>&) const (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x19C9E4: BasicAVLMapTests_EraseRebalanceCheck_Test::TestBody() (hw9_test.cpp:521)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327==
==708327== 1 errors in context 3 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x1960E9: BasicAVLMapTests_CopyConstructorCheck_Test::TestBody() (hw9_test.cpp:329)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== Address 0x4df6008 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x1960E9: BasicAVLMapTests_CopyConstructorCheck_Test::TestBody() (hw9_test.cpp:329)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A26D1: AVLMap<char, int>::copy(AVLMap<char, int>::Node const*) const (avlmap.h:493)
==708327== by 0x1A2734: AVLMap<char, int>::copy(AVLMap<char, int>::Node const*) const (avlmap.h:498)
==708327== by 0x1A1636: AVLMap<char, int>::AVLMap(AVLMap<char, int> const&) (avlmap.h:171)
==708327== by 0x195FDB: BasicAVLMapTests_CopyConstructorCheck_Test::TestBody() (hw9_test.cpp:326)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M)
==708327==

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==708327==
==708327== 1 errors in context 4 of 10:
==708327== Invalid read of size 8
==708327==    at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327==    by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327==    by 0x18EF74: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:145)
==708327==    by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327==    by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327==    by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327==    by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327==    by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==    by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327==    by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327==    by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==708327==    by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df1f78 is 24 bytes inside a block of size 32 free'd
==708327==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==708327==    by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327==    by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327==    by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327==    by 0x18EF74: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:145)
==708327==    by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327==    by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327==    by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327==    by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327==    by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==    by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327==    by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== Block was alloc'd at
==708327==    at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327==    by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327==    by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327==    by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327==    by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327==    by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327==    by 0x18DA39: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:110)
==708327==    by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327==    by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327==    by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327==    by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327==    by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==
==708327== 1 errors in context 5 of 10:
==708327== Invalid read of size 8
==708327==    at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327==    by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327==    by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327==    by 0x18ED9B: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:142)
==708327==    by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327==    by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327==    by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327==    by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327==    by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==    by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327==    by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327==    by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==708327== Address 0x4df1cd8 is 24 bytes inside a block of size 32 free'd
==708327==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==708327==    by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327==    by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327==    by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)

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==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18ED9B: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:142)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D94B: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:103)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==
==708327== 1 errors in context 6 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A22AB: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:593)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18EBC2: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:139)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4df1eb8 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18EBC2: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:139)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D9F5: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:108)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J

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==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-3)
==708327==
==708327==
==708327== 1 errors in context 7 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E9E9: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:136)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_seh.h:75)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_exceptions.h:111)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void*) (testing/internal/gtest_seh.h:75)
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void*) (testing/internal/gtest_exceptions.h:111)
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== Address 0x4df1f18 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E9E9: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:136)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_seh.h:75)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_exceptions.h:111)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18DA17: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:109)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_seh.h:75)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_exceptions.h:111)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==
==708327==
==708327== 1 errors in context 8 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E0AC: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:121)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_seh.h:75)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test, void*) (testing/internal/gtest_exceptions.h:111)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void*) (testing/internal/gtest_seh.h:75)
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl, void*) (testing/internal/gtest_exceptions.h:111)
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== Address 0x4df1d38 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)

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==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18E0AC: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:121)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D96D: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:104)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327==
==708327== 1 errors in context 9 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DCFA: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:115)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== Address 0x4dfd98 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DCFA: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:115)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-J
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D98F: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:105)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:

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==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==
==708327==
==708327== 1 errors in context 10 of 10:
==708327== Invalid read of size 8
==708327== at 0x1A2299: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:589)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DB21: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:112)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1C3960: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1E78A9: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1DF42E: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, void>(testing::internal::UnitTestImpl*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1C209F: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== Address 0x4df1df8 is 24 bytes inside a block of size 32 free'd
==708327== at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A21D0: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:563)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2138: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:549)
==708327== by 0x1A2282: AVLMap<char, int>::erase(char const&, AVLMap<char, int>::Node*) (avlmap.h:586)
==708327== by 0x1A0E39: AVLMap<char, int>::erase(char const&) (avlmap.h:297)
==708327== by 0x18DB21: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:112)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B3DE0: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== Block was alloc'd at
==708327== at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==708327== by 0x1A1FA6: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:508)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A201E: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:520)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A2044: AVLMap<char, int>::insert(char const&, int const&, AVLMap<char, int>::Node*) (avlmap.h:524)
==708327== by 0x1A0C8B: AVLMap<char, int>::insert(char const&, int const&) (avlmap.h:284)
==708327== by 0x18D9B1: BasicAVLMapTests_EraseCheck_Test::TestBody() (hw9_test.cpp:106)
==708327== by 0x1E637B: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1DE1F0: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, const char*&, void*) (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B2A37: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327== by 0x1B34AB: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-9/hw9-JT2M0)
==708327==
==708327== ERROR SUMMARY: 10 errors from 10 contexts (suppressed: 0 from 0)

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Performance test output:

```

# All times in milliseconds (msec)
# Column 1 = input data size
# Column 2 = binsearch map insert
# Column 3 = hash map insert
# Column 4 = bst map insert
# Column 5 = avl map insert
# Column 6 = binsearch map erase
# Column 7 = hash map erase
# Column 8 = bst map erase
# Column 9 = avl map erase
# Column 10 = binsearch map contains

```

[illegible]