Name: *Jonathan Smoley*

Assignment: 7

Complete & Correct:	. . . .	37 / 48
Tests:	. . . .	0 / 0
Format and Comments:	. . . .	6 / 6
Writeup:	. . . .	6 / 6

Total Score: . . . . 49 / 60

Comments:

1. (-6) mem issue as reported by valgrind

2. (-1) load factor check should occur at 75% (should be $\geq$ not $>$)

3. (-4) incorrect avg chain length calculation (failed tests)

Unit test output:

```
==369180== Memcheck, a memory error detector
==369180== Copyright (C) 2002-2017, and GNU GPL'd, by Julian Seward et al.
==369180== Using Valgrind-3.15.0 and LibVEX; rerun with -h for copyright info
==369180== Command: ./hw7_test
==369180==
[==========] Running 21 tests from 1 test suite.
[----------] Global test environment set-up.
[----------] 21 tests from BasicHashMapTests
[ RUN      ] BasicHashMapTests.EmptyCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x189C65: BasicHashMapTests_EmptyCheck_Test::TestBody() (hw7_test.cpp:22)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4def350 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x189C65: BasicHashMapTests_EmptyCheck_Test::TestBody() (hw7_test.cpp:22)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
```

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==369180==
[       OK ] BasicHashMapTests.EmptyCheck (12 ms)
[ RUN      ] BasicHashMapTests.InsertCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x189F17: BasicHashMapTests_InsertCheck_Test::TestBody() (hw7_test.cpp:29)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4def830 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x189F17: BasicHashMapTests_InsertCheck_Test::TestBody() (hw7_test.cpp:29)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.InsertCheck (3 ms)
[ RUN      ] BasicHashMapTests.RValueAccessCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18A251: BasicHashMapTests_RValueAccessCheck_Test::TestBody() (hw7_test.cpp:40)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4defe50 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18A251: BasicHashMapTests_RValueAccessCheck_Test::TestBody() (hw7_test.cpp:40)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.RValueAccessCheck (4 ms)
[ RUN      ] BasicHashMapTests.LValueAccessCheck
==369180== Mismatched free() / delete / delete []
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==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18A935: BasicHashMapTests_LValueAccessCheck_Test::TestBody() (hw7_test.cpp:54)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df0470 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amo
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18A935: BasicHashMapTests_LValueAccessCheck_Test::TestBody() (hw7_test.cpp:54)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.LValueAccessCheck (4 ms)
[ RUN      ] BasicHashMapTests.SimpleContainsCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18AF6D: BasicHashMapTests_SimpleContainsCheck_Test::TestBody() (hw7_test.cpp:71)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df0a90 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amo
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18AF6D: BasicHashMapTests_SimpleContainsCheck_Test::TestBody() (hw7_test.cpp:71)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.SimpleContainsCheck (3 ms)
[ RUN      ] BasicHashMapTests.MoreInvolvedContainsCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18B669: BasicHashMapTests_MoreInvolvedContainsCheck_Test::TestBody() (hw7_test.cpp:85)
```

```
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==   Address 0x4df10b0 is 0 bytes inside a block of size 128 alloc'd
==369180==     at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amc
==369180==     by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==     by 0x18B669: BasicHashMapTests_MoreInvolvedContainsCheck_Test::TestBody() (hw7_test.cpp:85)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==     by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.MoreInvolvedContainsCheck (2 ms)
[ RUN      ] BasicHashMapTests.EraseCheck
==369180== Mismatched free() / delete / delete []
==369180==     at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==369180==     by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==     by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==     by 0x18B85F: BasicHashMapTests_EraseCheck_Test::TestBody() (hw7_test.cpp:95)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==   Address 0x4df2130 is 0 bytes inside a block of size 128 alloc'd
==369180==     at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amc
==369180==     by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==     by 0x18B85F: BasicHashMapTests_EraseCheck_Test::TestBody() (hw7_test.cpp:95)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==     by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.EraseCheck (6 ms)
[ RUN      ] BasicHashMapTests.KeyRangeCheck
==369180== Mismatched free() / delete / delete []
==369180==     at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==369180==     by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==     by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==     by 0x18C425: BasicHashMapTests_KeyRangeCheck_Test::TestBody() (hw7_test.cpp:117)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
```

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==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df2750 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18C425: BasicHashMapTests_KeyRangeCheck_Test::TestBody() (hw7_test.cpp:117)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.KeyRangeCheck (8 ms)
[ RUN      ] BasicHashMapTests.SortedKeyCheck
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18CF49: BasicHashMapTests_SortedKeyCheck_Test::TestBody() (hw7_test.cpp:136)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df2fa0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18CF49: BasicHashMapTests_SortedKeyCheck_Test::TestBody() (hw7_test.cpp:136)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.SortedKeyCheck (9 ms)
[ RUN      ] BasicHashMapTests.InvalidKeyCheck
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18D865: BasicHashMapTests_InvalidKeyCheck_Test::TestBody() (hw7_test.cpp:154)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==  Address 0x4df3750 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18D865: BasicHashMapTests_InvalidKeyCheck_Test::TestBody() (hw7_test.cpp:154)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.InvalidKeyCheck (30 ms)
[ RUN      ] BasicHashMapTests.NextKeyCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18E957: BasicHashMapTests_NextKeyCheck_Test::TestBody() (hw7_test.cpp:168)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df4450 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18E957: BasicHashMapTests_NextKeyCheck_Test::TestBody() (hw7_test.cpp:168)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.NextKeyCheck (7 ms)
[ RUN      ] BasicHashMapTests.PrevKeyCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18F7FF: BasicHashMapTests_PrevKeyCheck_Test::TestBody() (hw7_test.cpp:196)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df4ac0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18F7FF: BasicHashMapTests_PrevKeyCheck_Test::TestBody() (hw7_test.cpp:196)
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==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.PrevKeyCheck (7 ms)
[ RUN      ] BasicHashMapTests.ResizeRehashCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==    by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==    by 0x1906AA: BasicHashMapTests_ResizeRehashCheck_Test::TestBody() (hw7_test.cpp:225)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df5130 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==    by 0x1906AA: BasicHashMapTests_ResizeRehashCheck_Test::TestBody() (hw7_test.cpp:225)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.ResizeRehashCheck (6 ms)
[ RUN      ] BasicHashMapTests.DestructorCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x190AF4: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:238)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df65d0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x190AF4: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:238)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
```

```
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x190C1F: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:240)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df67b0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x190C1F: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:240)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x190D84: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:243)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df69e0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x190D84: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:243)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.DestructorCheck (3 ms)
[ RUN      ] BasicHashMapTests.CopyConstructorCheck
```

```
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x191425: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:252)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df7a60 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x191425: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:252)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x19A175: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:134)
==369180==    by 0x191438: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:253)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df7be0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x19A157: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:132)
==369180==    by 0x191438: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:253)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x19A175: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:134)
==369180==    by 0x1916F1: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:261)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
```

```
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df7f60 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x19A157: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:132)
==369180==      by 0x1916F1: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:261)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.CopyConstructorCheck (6 ms)
[ RUN      ] BasicHashMapTests.CopyAssignmentCheck
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x191E1B: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:272)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df85f0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x191E1B: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:272)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x191E27: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:273)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df8770 is 0 bytes inside a block of size 128 alloc'd
```

```
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x191E27: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:273)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.CopyAssignmentCheck (9 ms)
[ RUN      ] BasicHashMapTests.MoveConstructorCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x193274: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:308)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df90a0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x193274: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:308)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x19A4B9: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:142)
==369180==    by 0x193295: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:309)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9220 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x19A49B: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:140)
==369180==    by 0x193295: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:309)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
```

```
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x193470: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:313)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df93a0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x193470: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:313)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x19A4B9: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:142)
==369180==      by 0x1936BA: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:317)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9570 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x19A49B: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:140)
==369180==      by 0x1936BA: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:317)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.MoveConstructorCheck (7 ms)
```

```
[ RUN      ] BasicHashMapTests.MoveAssignmentCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x19419D: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:331)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9aa0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x19419D: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:331)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x1942EF: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:337)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9d10 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x1942EF: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:337)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x194B4C: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:351)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
```

```
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9f80 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x194B4C: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:351)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.MoveAssignmentCheck (8 ms)
[ RUN      ] BasicHashMapTests.StatsEmptyCheck
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==      by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==      by 0x1955CD: BasicHashMapTests_StatsEmptyCheck_Test::TestBody() (hw7_test.cpp:363)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4dfa460 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==      by 0x1955CD: BasicHashMapTests_StatsEmptyCheck_Test::TestBody() (hw7_test.cpp:363)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
[       OK ] BasicHashMapTests.StatsEmptyCheck (3 ms)
[ RUN      ] BasicHashMapTests.StatsBiasedCheck
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==      by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==      by 0x195AD0: BasicHashMapTests_StatsBiasedCheck_Test::TestBody() (hw7_test.cpp:373)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
```

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==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4dfa940 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==    by 0x195AD0: BasicHashMapTests_StatsBiasedCheck_Test::TestBody() (hw7_test.cpp:373)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
/home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0L3Y/hw7_test.cpp:377: Failure
Expected equality of these values:
  3
  m.min_chain_length()
    Which is: 2
[  FAILED  ] BasicHashMapTests.StatsBiasedCheck (33 ms)
[ RUN      ] BasicHashMapTests.StatsRandomCheck
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memc
==369180==    by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==    by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==    by 0x19601E: BasicHashMapTests_StatsRandomCheck_Test::TestBody() (hw7_test.cpp:386)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4dfdd30 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==    by 0x19601E: BasicHashMapTests_StatsRandomCheck_Test::TestBody() (hw7_test.cpp:386)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
/home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0L3Y/hw7_test.cpp:393: Failure
Expected equality of these values:
  1.5
  m.avg_chain_length()
    Which is: 0.640625
[  FAILED  ] BasicHashMapTests.StatsRandomCheck (21 ms)
[----------] 21 tests from BasicHashMapTests (212 ms total)

[----------] Global test environment tear-down
[==========] 21 tests from 1 test suite ran. (251 ms total)
[  PASSED  ] 19 tests.
[  FAILED  ] 2 tests, listed below:
```

```
[  FAILED  ] BasicHashMapTests.StatsBiasedCheck
[  FAILED  ] BasicHashMapTests.StatsRandomCheck

 2 FAILED TESTS
==369180==
==369180== HEAP SUMMARY:
==369180==     in use at exit: 3,120 bytes in 167 blocks
==369180==   total heap usage: 985 allocs, 818 frees, 178,014 bytes allocated
==369180==
==369180== LEAK SUMMARY:
==369180==    definitely lost: 3,088 bytes in 165 blocks
==369180==    indirectly lost: 32 bytes in 2 blocks
==369180==      possibly lost: 0 bytes in 0 blocks
==369180==    still reachable: 0 bytes in 0 blocks
==369180==         suppressed: 0 bytes in 0 blocks
==369180== Rerun with --leak-check=full to see details of leaked memory
==369180==
==369180== ERROR SUMMARY: 31 errors from 31 contexts (suppressed: 0 from 0)
==369180==
==369180== 1 errors in context 1 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==    by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==    by 0x19601E: BasicHashMapTests_StatsRandomCheck_Test::TestBody() (hw7_test.cpp:386)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4dfdd30 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==    by 0x19601E: BasicHashMapTests_StatsRandomCheck_Test::TestBody() (hw7_test.cpp:386)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 2 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==    by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==    by 0x195AD0: BasicHashMapTests_StatsBiasedCheck_Test::TestBody() (hw7_test.cpp:373)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==    Address 0x4dfa940 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==      by 0x195AD0: BasicHashMapTests_StatsBiasedCheck_Test::TestBody() (hw7_test.cpp:373)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 3 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==      by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==      by 0x1955CD: BasicHashMapTests_StatsEmptyCheck_Test::TestBody() (hw7_test.cpp:363)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    Address 0x4dfa460 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
==369180==      by 0x1955CD: BasicHashMapTests_StatsEmptyCheck_Test::TestBody() (hw7_test.cpp:363)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 4 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x194B4C: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:351)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    Address 0x4df9f80 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x194B4C: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:351)
```

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==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 5 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x1942EF: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:337)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9d10 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x1942EF: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:337)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 6 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x19419D: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:331)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIn
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9aa0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x19419D: BasicHashMapTests_MoveAssignmentCheck_Test::TestBody() (hw7_test.cpp:331)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
```

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==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 7 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x19A4B9: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:142)
==369180==      by 0x1936BA: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:317)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9570 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amo
==369180==      by 0x19A49B: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:140)
==369180==      by 0x1936BA: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:317)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 8 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x193470: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:313)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df93a0 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amo
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x193470: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:313)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 9 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x19A4B9: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:142)
==369180==    by 0x193295: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:309)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df9220 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x19A49B: HashMap<char, int>::HashMap(HashMap<char, int>&&) (hashmap.h:140)
==369180==    by 0x193295: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:309)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 10 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x193274: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:308)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df90a0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x193274: BasicHashMapTests_MoveConstructorCheck_Test::TestBody() (hw7_test.cpp:308)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 11 of 31:
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==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x191E27: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:273)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df8770 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amc
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x191E27: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:273)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
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==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 12 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x191E1B: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:272)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
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==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
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==369180==  Address 0x4df85f0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amc
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x191E1B: BasicHashMapTests_CopyAssignmentCheck_Test::TestBody() (hw7_test.cpp:272)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 13 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x19A175: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:134)
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==369180==    by 0x1916F1: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:261)
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==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df7f60 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x19A157: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:132)
==369180==    by 0x1916F1: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:261)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 14 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x19A175: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:134)
==369180==    by 0x191438: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:253)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df7be0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x19A157: HashMap<char, int>::HashMap(HashMap<char, int> const&) (hashmap.h:132)
==369180==    by 0x191438: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:253)
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==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
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==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 15 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x191425: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:252)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
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==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
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==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    Address 0x4df7a60 is 0 bytes inside a block of size 128 alloc'd
==369180==       at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==       by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==       by 0x191425: BasicHashMapTests_CopyConstructorCheck_Test::TestBody() (hw7_test.cpp:252)
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==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==       by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 16 of 31:
==369180== Mismatched free() / delete / delete []
==369180==       at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==       by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==       by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==       by 0x190D84: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:243)
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==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==       by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==       by 0x190D84: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:243)
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==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
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==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==
==369180==
==369180== 1 errors in context 17 of 31:
==369180== Mismatched free() / delete / delete []
==369180==       at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==       by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==       by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==       by 0x190C1F: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:240)
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==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
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==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==       by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==       by 0x190C1F: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:240)
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==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
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==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==       by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 18 of 31:
==369180== Mismatched free() / delete / delete []
==369180==       at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==       by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==       by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==       by 0x190AF4: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:238)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==     Address 0x4df65d0 is 0 bytes inside a block of size 128 alloc'd
==369180==       at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==       by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==       by 0x190AF4: BasicHashMapTests_DestructorCheck_Test::TestBody() (hw7_test.cpp:238)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
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==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==       by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 19 of 31:
==369180== Mismatched free() / delete / delete []
==369180==       at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==       by 0x19B183: HashMap<int, int>::init_table() (hashmap.h:572)
==369180==       by 0x199C73: HashMap<int, int>::HashMap() (hashmap.h:127)
==369180==       by 0x1906AA: BasicHashMapTests_ResizeRehashCheck_Test::TestBody() (hw7_test.cpp:225)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2M0
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==     Address 0x4df5130 is 0 bytes inside a block of size 128 alloc'd
==369180==       at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==       by 0x199C55: HashMap<int, int>::HashMap() (hashmap.h:125)
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==369180==       by 0x1906AA: BasicHashMapTests_ResizeRehashCheck_Test::TestBody() (hw7_test.cpp:225)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==       by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 20 of 31:
==369180== Mismatched free() / delete / delete []
==369180==       at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==       by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==       by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==       by 0x18F7FF: BasicHashMapTests_PrevKeyCheck_Test::TestBody() (hw7_test.cpp:196)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df4ac0 is 0 bytes inside a block of size 128 alloc'd
==369180==       at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==       by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==       by 0x18F7FF: BasicHashMapTests_PrevKeyCheck_Test::TestBody() (hw7_test.cpp:196)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==       by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 21 of 31:
==369180== Mismatched free() / delete / delete []
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==369180==       by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==       by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==       by 0x18E957: BasicHashMapTests_NextKeyCheck_Test::TestBody() (hw7_test.cpp:168)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==       by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==       by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==       by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==       by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==       by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df4450 is 0 bytes inside a block of size 128 alloc'd
==369180==       at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==       by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==       by 0x18E957: BasicHashMapTests_NextKeyCheck_Test::TestBody() (hw7_test.cpp:168)
==369180==       by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==       by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==       by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
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==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 22 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18D865: BasicHashMapTests_InvalidKeyCheck_Test::TestBody() (hw7_test.cpp:154)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df3750 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18D865: BasicHashMapTests_InvalidKeyCheck_Test::TestBody() (hw7_test.cpp:154)
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==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
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==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 23 of 31:
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==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18CF49: BasicHashMapTests_SortedKeyCheck_Test::TestBody() (hw7_test.cpp:136)
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==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df2fa0 is 0 bytes inside a block of size 128 alloc'd
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==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18CF49: BasicHashMapTests_SortedKeyCheck_Test::TestBody() (hw7_test.cpp:136)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
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==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==
==369180==
==369180== 1 errors in context 24 of 31:
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==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18C425: BasicHashMapTests_KeyRangeCheck_Test::TestBody() (hw7_test.cpp:117)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
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==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
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==369180==      by 0x18C425: BasicHashMapTests_KeyRangeCheck_Test::TestBody() (hw7_test.cpp:117)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
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==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
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==369180==
==369180==
==369180== 1 errors in context 25 of 31:
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==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18B85F: BasicHashMapTests_EraseCheck_Test::TestBody() (hw7_test.cpp:95)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df2130 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18B85F: BasicHashMapTests_EraseCheck_Test::TestBody() (hw7_test.cpp:95)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
```

```
==369180== 1 errors in context 26 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18B669: BasicHashMapTests_MoreInvolvedContainsCheck_Test::TestBody() (hw7_test.cpp:85)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df10b0 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18B669: BasicHashMapTests_MoreInvolvedContainsCheck_Test::TestBody() (hw7_test.cpp:85)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 27 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==    by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==    by 0x18AF6D: BasicHashMapTests_SimpleContainsCheck_Test::TestBody() (hw7_test.cpp:71)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df0a90 is 0 bytes inside a block of size 128 alloc'd
==369180==    at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==    by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==    by 0x18AF6D: BasicHashMapTests_SimpleContainsCheck_Test::TestBody() (hw7_test.cpp:71)
==369180==    by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==    by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==    by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==    by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==    by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==    by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==    by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==    by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==    by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 28 of 31:
==369180== Mismatched free() / delete / delete []
==369180==    at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==    by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
```

```
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18A935: BasicHashMapTests_LValueAccessCheck_Test::TestBody() (hw7_test.cpp:54)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4df0470 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18A935: BasicHashMapTests_LValueAccessCheck_Test::TestBody() (hw7_test.cpp:54)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 29 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x18A251: BasicHashMapTests_RValueAccessCheck_Test::TestBody() (hw7_test.cpp:40)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4defe50 is 0 bytes inside a block of size 128 alloc'd
==369180==      at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==      by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==      by 0x18A251: BasicHashMapTests_RValueAccessCheck_Test::TestBody() (hw7_test.cpp:40)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==      by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MO
==369180==      by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==      by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==      by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==      by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==      by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==      by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 30 of 31:
==369180== Mismatched free() / delete / delete []
==369180==      at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==      by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==      by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==      by 0x189F17: BasicHashMapTests_InsertCheck_Test::TestBody() (hw7_test.cpp:29)
==369180==      by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==      by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
```

```
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4def830 is 0 bytes inside a block of size 128 alloc'd
==369180==     at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==     by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==     by 0x189F17: BasicHashMapTests_InsertCheck_Test::TestBody() (hw7_test.cpp:29)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==     by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180==
==369180== 1 errors in context 31 of 31:
==369180== Mismatched free() / delete / delete []
==369180==     at 0x483D1CF: operator delete(void*, unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memo
==369180==     by 0x19AA1D: HashMap<char, int>::init_table() (hashmap.h:572)
==369180==     by 0x198F11: HashMap<char, int>::HashMap() (hashmap.h:127)
==369180==     by 0x189C65: BasicHashMapTests_EmptyCheck_Test::TestBody() (hw7_test.cpp:22)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==  Address 0x4def350 is 0 bytes inside a block of size 128 alloc'd
==369180==     at 0x483C583: operator new[](unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd
==369180==     by 0x198EF3: HashMap<char, int>::HashMap() (hashmap.h:125)
==369180==     by 0x189C65: BasicHashMapTests_EmptyCheck_Test::TestBody() (hw7_test.cpp:22)
==369180==     by 0x1DC4C9: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing:
==369180==     by 0x1D433E: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Te
==369180==     by 0x1A8B45: testing::Test::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-JT2MC
==369180==     by 0x1A95B9: testing::TestInfo::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==     by 0x1A9EEE: testing::TestSuite::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-
==369180==     by 0x1B9A6E: testing::internal::UnitTestImpl::RunAllTests() (in /home/bowers/svn/bowers/teaching/cpsc223-
==369180==     by 0x1DD9F7: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestIm
==369180==     by 0x1D557C: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl,
==369180==     by 0x1B81AD: testing::UnitTest::Run() (in /home/bowers/svn/bowers/teaching/cpsc223-s22/grading/HW-7/hw7-J
==369180==
==369180== ERROR SUMMARY: 31 errors from 31 contexts (suppressed: 0 from 0)
```

Performance test output:

```
# All times in milliseconds (msec)
# Column 1 = input data size
# Column 2 = binsearch map insert
# Column 3 = array map insert
# Column 4 = hash map insert
# Column 5 = binsearch map erase
# Column 6 = array map erase
# Column 7 = hash map erase
```

```
# Column 8 = binsearch map contains
# Column 9 = array map contains
# Column 10 = hash map contains
# Column 11 = binsearch map find range
# Column 12 = array map find range
# Column 13 = hash map find range
# Column 14 = binsearch map next key
# Column 15 = array map next key
# Column 16 = hash map next key
# Column 17 = binsearch map sorted keys
# Column 18 = array map sorted keys
# Column 19 = hash map sorted keys
# Column 20 = min chain length
# Column 21 = max chain length
# Column 22 = avg chain length
0 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0 0 0.00
5000 0.04 0.00 0.00 0.04 0.09 0.00 0.00 0.04 0.00 0.00 0.07 0.05 0.00 0.08 0.06 0.15 1.15 0.54 1 2 0.37
10000 0.04 0.00 0.00 0.04 0.09 0.00 0.00 0.04 0.00 0.00 0.07 0.05 0.00 0.07 0.05 0.15 1.14 0.57 1 2 0.39
15000 0.05 0.00 0.00 0.05 0.13 0.00 0.00 0.06 0.00 0.18 0.10 0.31 0.00 0.10 0.09 0.19 1.80 0.90 1 2 0.28
20000 0.06 0.00 0.00 0.06 0.17 0.00 0.00 0.08 0.00 0.00 0.13 0.11 0.00 0.13 0.12 0.31 2.44 1.40 1 2 0.43
25000 0.08 0.00 0.00 0.08 0.23 0.00 0.00 0.11 0.00 0.53 0.17 0.18 0.00 0.16 0.19 0.33 3.05 1.48 1 2 0.23
30000 0.08 0.00 0.00 0.08 0.26 0.00 0.00 0.13 0.00 0.78 0.20 1.01 0.00 0.19 0.20 0.40 3.75 1.96 1 2 0.31
35000 0.09 0.00 0.00 0.09 0.31 0.00 0.00 0.15 0.00 0.00 0.22 0.23 0.00 0.22 0.21 0.55 4.41 2.54 1 2 0.38
40000 0.09 0.00 0.00 0.10 0.36 0.00 0.00 0.17 0.00 1.38 0.26 1.60 0.00 0.25 0.22 0.61 5.15 3.20 1 2 0.46
45000 0.10 0.00 0.00 0.10 0.39 0.00 0.00 0.19 0.00 1.73 0.34 2.01 0.00 0.27 0.24 0.68 5.77 3.71 1 2 0.54
50000 0.10 0.00 0.00 0.10 0.45 0.00 0.00 0.21 0.00 2.15 0.32 0.41 0.00 0.30 0.39 0.69 6.52 2.96 1 1 0.23
8.89user 0.00system 0:08.90elapsed 99%CPU (0avgtext+0avgdata 10632maxresident)k
0inputs+32outputs (0major+4276minor)pagefaults 0swaps
```