

```
(lldb) frame variable --no-args
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) insert_ptr = 0x000060000208000
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) prev_ptr = 0x000060000201160
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = nullptr
(lldb) frame variable valid_position
(bool) valid_position = true
(lldb) frame variable *insert_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) *insert_ptr = {
    entry = "bananas"
    next_node = nullptr
}
(lldb) frame variable *prev_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) *prev_ptr = {
    entry = "apples"
    next_node = 0x000060000208000
}
(lldb) next

- Hook 1 (expr -- position)
(int) $18 = 2

- Hook 2 (frame variable)
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x000060000008010
(int) position = 2
(const std::basic_string<char, std::char_traits<char>, std::allocator<char> > &) new_entry = "bananas": {
    __r_ = {
        std::__1::__compressed_pair_elem<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> >::__rep, 0, false> = {
            __value_ = {
                = {
                    __l = (__cap_ = 8314047751845405198, __size_ = 8590207744, __data_ = "X\U000001d\b")
                    __s = {
                        = (__size_ = '\x0e', __lx = '\x0e')
                        __data_ = "bananas"
                    }
                    __r = {
                        __words = ([0] = 8314047751845405198, [1] = 8590207744, [2] = 4434759776)
                    }
                }
            }
        }
    }
}
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) insert_ptr = 0x000060000208000
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) prev_ptr = 0x000060000201160
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = nullptr

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000010000277c lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::__insert(
this=0x000060000008010, position=2, new_entry="bananas") at LinkedList.hpp:89:13
    86             }
    87
    88             m_length++;
-> 89             std::cout << "\n-- THE NEW ENTRY " << new_entry << " AT POSITION ";
    90             std::cout << position << " HAS BEEN BE INSERTED INTO THE LIST." << std::endl;
    91
    92         } else {
Target 0: (lab05) stopped.
(lldb) next

- Hook 1 (expr -- position)
(int) $19 = 2

- Hook 2 (frame variable)
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x000060000008010
(int) position = 2
(const std::basic_string<char, std::char_traits<char>, std::allocator<char> > &) new_entry = "bananas": {
    __r_ = {
```

```
std::__1::__compressed_pair_elem<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char>>::__rep, 0, false> = {  
    __value_ = {  
        = {  
            __l = (__cap_ = 8314047751845405198, __size_ = 8590207744, __data_ = "X\U0000001d\b")  
            __s = {  
                = (__size_ = '\x0e', __lx = '\x0e')  
                __data_ = "bananas"  
            }  
            __r = {  
                __words = ([0] = 8314047751845405198, [1] = 8590207744, [2] = 4434759776)  
            }  
        }  
    }  
}  
  
(bool) valid_position = true  
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) insert_ptr = 0x0000600000208000  
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) prev_ptr = 0x0000600000201160  
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) target_ptr = nullptr  
  
Process 50269 stopped  
* thread #1, queue = 'com.apple.main-thread', stop reason = step over  
    frame #0: 0x00000001000027aa lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char>>>::__insert(  
this=0x0000600000008010, position=2, new_entry="bananas") at LinkedList.hpp:90:16  
   87  
   88         m_length++;  
   89         std::cout << "\n-- THE NEW ENTRY " << new_entry << " AT POSITION ";  
-> 90         std::cout << position << " HAS BEEN BE INSERTED INTO THE LIST." << std::endl;  
   91  
   92     } else {  
   93         std::cout << "\n-- THE NEW ENTRY " << new_entry << " AT POSITION ";  
Target 0: (lab05) stopped.  
(lldb) next  
-- THE NEW ENTRY bananas AT POSITION 2 HAS BEEN BE INSERTED INTO THE LIST.  
  
- Hook 1 (expr -- position)  
(int) $20 = 2  
  
- Hook 2 (frame variable)  
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) this = 0x0000600000008010  
(int) position = 2  
(const std::basic_string<char, std::char_traits<char>, std::allocator<char>>&) new_entry = "bananas": {  
    __r_ = {  
        std::__1::__compressed_pair_elem<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char>>::__rep, 0, false> = {  
            __value_ = {  
                = {  
                    __l = (__cap_ = 8314047751845405198, __size_ = 8590207744, __data_ = "X\U0000001d\b")  
                    __s = {  
                        = (__size_ = '\x0e', __lx = '\x0e')  
                        __data_ = "bananas"  
                    }  
                    __r = {  
                        __words = ([0] = 8314047751845405198, [1] = 8590207744, [2] = 4434759776)  
                    }  
                }  
            }  
        }  
    }  
}  
  
(bool) valid_position = true  
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) insert_ptr = 0x0000600000208000  
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) prev_ptr = 0x0000600000201160  
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char>>> *) target_ptr = nullptr  
  
Process 50269 stopped  
* thread #1, queue = 'com.apple.main-thread', stop reason = step over  
    frame #0: 0x00000001000027d0 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char>>>::__insert(  
this=0x0000600000008010, position=2, new_entry="bananas") at LinkedList.hpp:92:2  
   89         std::cout << "\n-- THE NEW ENTRY " << new_entry << " AT POSITION ";  
   90         std::cout << position << " HAS BEEN BE INSERTED INTO THE LIST." << std::endl;  
   91
```

[illegible]

Target 0: (lab05) stopped.

(lldb) next

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}
```

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```
frame #0: 0x000000010000216f lab05`main at main.cpp:14:16
11         try {
12             groceries -> insert(1, "apples");
13             std::cout << groceries -> getLength() << std::endl;
-> 14             groceries -> insert(2, "bananas");
15             std::cout << groceries -> getLength() << std::endl;
16             groceries -> insert(3, "sweet potatoes");
17             std::cout << groceries -> getLength() << std::endl;
```

Target 0: (lab05) stopped.

(lldb) next

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}
```

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```
frame #0: 0x000000010000217d lab05`main at main.cpp:15:16
12             groceries -> insert(1, "apples");
13             std::cout << groceries -> getLength() << std::endl;
14             groceries -> insert(2, "bananas");
-> 15             std::cout << groceries -> getLength() << std::endl;
16             groceries -> insert(3, "sweet potatoes");
17             std::cout << groceries -> getLength() << std::endl;
18             groceries -> insert(4, "argula");
```

Target 0: (lab05) stopped.

(lldb) frame variable

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}
```

(lldb) frame variable groceries -> headptr

error: unknown or ambiguous option

(lldb) frame variable *groceries

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *groceries = {
    headptr = 0x0000600000201160
    m_length = 2
}
```

(lldb) frame variable *groceries -> headptr

error: unknown or ambiguous option

(lldb) frame variable *groceries->headptr

```
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *groceries->headptr = {
    entry = "apples"
    next_node = 0x0000600000208000
}
```

(lldb) next

-- RETURNING THE AMOUNT OF NODE OBJECTS IN THE LIST.

2

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}
```

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

    frame #0: 0x00000001000021cc lab05`main at main.cpp:16:3
    13             std::cout << groceries -> getLength() << std::endl;
    14             groceries -> insert(2, "bananas");
    15             std::cout << groceries -> getLength() << std::endl;
-> 16             groceries -> insert(3, "sweet potatoes");
    17             std::cout << groceries -> getLength() << std::endl;
    18             groceries -> insert(4, "argula");
    19             std::cout << groceries -> getLength() << std::endl;

```

Target 0: (lab05) stopped.

(lldb) next

-- THE NEW ENTRY sweet potatoes AT POSITION 3 HAS BEEN BE INSERTED INTO THE LIST.

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}

```

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

    frame #0: 0x000000010000220f lab05`main at main.cpp:17:16
    14             groceries -> insert(2, "bananas");
    15             std::cout << groceries -> getLength() << std::endl;
    16             groceries -> insert(3, "sweet potatoes");
-> 17             std::cout << groceries -> getLength() << std::endl;
    18             groceries -> insert(4, "argula");
    19             std::cout << groceries -> getLength() << std::endl;
    20             } catch (std::exception &e) {

```

Target 0: (lab05) stopped.

(lldb) next

-- RETURNING THE AMOUNT OF NODE OBJECTS IN THE LIST.

3

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}

```

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

    frame #0: 0x000000010000225e lab05`main at main.cpp:18:3
    15             std::cout << groceries -> getLength() << std::endl;
    16             groceries -> insert(3, "sweet potatoes");
    17             std::cout << groceries -> getLength() << std::endl;
-> 18             groceries -> insert(4, "argula");
    19             std::cout << groceries -> getLength() << std::endl;
    20             } catch (std::exception &e) {
    21             std::cout << e.what() << std::endl;

```

Target 0: (lab05) stopped.

(lldb) next

-- THE NEW ENTRY argula AT POSITION 4 HAS BEEN BE INSERTED INTO THE LIST.

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}

```

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

    frame #0: 0x00000001000022a1 lab05`main at main.cpp:19:16
    16             groceries -> insert(3, "sweet potatoes");
    17             std::cout << groceries -> getLength() << std::endl;
    18             groceries -> insert(4, "argula");
-> 19             std::cout << groceries -> getLength() << std::endl;
    20             } catch (std::exception &e) {

```

```

21         std::cout << e.what() << std::endl;
22     }

```

Target 0: (lab05) stopped.

(lldb) next

-- RETURNING THE AMOUNT OF NODE OBJECTS IN THE LIST.

4

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

frame #0: 0x00000001000022f0 lab05`main at main.cpp:20:2

17 std::cout << groceries -> getLength() << std::endl;

18 groceries -> insert(4, "argula");

19 std::cout << groceries -> getLength() << std::endl;

-> 20 } catch (std::exception &e) {

21 std::cout << e.what() << std::endl;

22 }

23

Target 0: (lab05) stopped.

(lldb) step next

error: invalid thread index 'next'.

(lldb) next

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

(int) length = 0

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

frame #0: 0x00000001000023f1 lab05`main at main.cpp:25:16

22 }

23

24 try {

-> 25 int length = groceries -> getLength();

26

27 std::cout << "\ngrocery list: " << std::endl;

28 for (int i = 1; i <= length; i++) {

Target 0: (lab05) stopped.

(lldb) tread step-over

error: 'tread' is not a valid command.

(lldb) thread step-in

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

(const LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x00000001000028ee lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getLength(this=0x0000600000008010) const at LinkedList.hpp:53:12

50

51 template <typename T>

52 int LinkedList<T>::getLength() const {

-> 53 std::cout << "\n-- RETURNING THE AMOUNT OF NODE OBJECTS IN THE LIST." << std::endl;

54 return(m_length);

55 }

56

Target 0: (lab05) stopped.

(lldb) next

-- RETURNING THE AMOUNT OF NODE OBJECTS IN THE LIST.

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

(const LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

frame #0: 0x000000010000290d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getLength(this=0x0000600000008010) const at LinkedList.hpp:54:9

```
51     template <typename T>
52     int LinkedList<T>::getLength() const {
53         std::cout << "\n-- RETURNING THE AMOUNT OF NODE OBJECTS IN THE LIST." << std::endl;
-> 54         return(m_length);
55     }
56
57     /// try catch block for calling this is required
```

Target 0: (lab05) stopped.

(lldb) next

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

(int) length = 0

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

frame #0: 0x00000001000023fa lab05`main at main.cpp:25:29

```
22     }
23
24     try {
-> 25         int length = groceries -> getLength();
26
27         std::cout << "\ngrocery list: " << std::endl;
28         for (int i = 1; i <= length; i++) {
```

Target 0: (lab05) stopped.

(lldb) frame variable

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

(int) length = 0

(lldb) step

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

(int) length = 4

Process 50269 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x0000000100002413 lab05`main at main.cpp:27:13

```
24     try {
25         int length = groceries -> getLength();
26
-> 27         std::cout << "\ngrocery list: " << std::endl;
28         for (int i = 1; i <= length; i++) {
29             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
30         }
```

Target 0: (lab05) stopped.

(lldb) frame variable

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

(int) length = 4

(lldb) step

grocery list:

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}
(int) length = 4
(int) i = 0
```

Process 50269 stopped

```
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
  frame #0: 0x000000010000244d lab05`main at main.cpp:28:12
  25             int length = groceries -> getLength();
  26
  27             std::cout << "\ngrocery list: " << std::endl;
-> 28             for (int i = 1; i <= length; i++) {
  29                 std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
  30             }
  31
```

Target 0: (lab05) stopped.

(lldb) step

- Hook 1 (expr -- position)

- Hook 2 (frame variable)

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010
(std::exception &) e = 0x0000000000000000
(std::exception &) e = 0x0000000108551010 {}
(int) length = 4
(int) i = 1
```

Process 50269 stopped

```
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
  frame #0: 0x0000000100002469 lab05`main at main.cpp:29:17
  26
  27             std::cout << "\ngrocery list: " << std::endl;
  28             for (int i = 1; i <= length; i++) {
-> 29                 std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
  30             }
  31
  32             } catch (std::exception &e) {
```

Target 0: (lab05) stopped.

(lldb) step

- Hook 1 (expr -- position)

(int) \$22 = 1

- Hook 2 (frame variable)

```
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010
(int) position = 1
(bool) valid_position = false
```

Process 50269 stopped

```
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
  frame #0: 0x0000000100002a58 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getEntry(this=0x0000600000008010, position=1) at LinkedList.hpp:152:34
  149
  150 //         std::cout << "\n-- AN ENTRY FROM THE NODE AT POSITION " << position << " HAS BEEN REQUESTED TO BE RETURNED." << std::endl;
  151
-> 152         bool valid_position = (position >= 1) && (position <= m_length);
  153
  154         if (valid_position) {
  155
```

Target 0: (lab05) stopped.

(lldb) thread step-in

- Hook 1 (expr -- position)

(int) \$23 = 1

- Hook 2 (frame variable)


```

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010
(int) position = 1
(bool) valid_position = true

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002a7d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getEntr
y(this=0x0000600000008010, position=1) at LinkedList.hpp:154:6
    151
    152         bool valid_position = (position >= 1) && (position <= m_length);
    153
-> 154         if (valid_position) {
    155
    156             Node<T>* newNode = nullptr;
    157             newNode = new Node<T>();
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)
(int) $24 = 1

- Hook 2 (frame variable)
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010
(int) position = 1
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) newNode = 0x00007ff8562966f0

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002a87 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getEntr
y(this=0x0000600000008010, position=1) at LinkedList.hpp:156:12
    153
    154         if (valid_position) {
    155
-> 156             Node<T>* newNode = nullptr;
    157             newNode = new Node<T>();
    158             newNode = getNodeAt(position);
    159
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)
(int) $25 = 1

- Hook 2 (frame variable)
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010
(int) position = 1
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) newNode = nullptr

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002a94 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getEntr
y(this=0x0000600000008010, position=1) at LinkedList.hpp:157:13
    154         if (valid_position) {
    155
    156             Node<T>* newNode = nullptr;
-> 157             newNode = new Node<T>();
    158             newNode = getNodeAt(position);
    159
    160             return (newNode -> getEntry());
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)

- Hook 2 (frame variable)
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x000060000020c000

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in

```

```

    frame #0: 0x0000000100003980 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::Node(this=0x0
00060000020c000) at Node.hpp:6:17
    3      #include <iostream>
    4
    5      template <typename T>
-> 6      Node<T>::Node() {
    7          //          std::cout << "\n---- Node() \n---- AN EMPTY NODE HAS BEEN CREATED [0" << entry << " -> nullptr]" << std::endl;
    8      }
    9
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)

- Hook 2 (frame variable)
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x000060000020c000

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039d0 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::Node(this=0x0
00060000020c000) at Node.h:12:2
    9          Node<T>* next_node;
    10
    11      public:
-> 12          Node();
    13          Node(const T& new_entry);
    14          Node(const T& new_entry, Node<T>* new_next_node);
    15          T getEntry() const;
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)

- Hook 2 (frame variable)
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x000060000020c000

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039d5 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::Node(this=0x0
00060000020c000) at Node.hpp:8:1
    5      template <typename T>
    6      Node<T>::Node() {
    7          //          std::cout << "\n---- Node() \n---- AN EMPTY NODE HAS BEEN CREATED [0" << entry << " -> nullptr]" << std::endl;
-> 8      }
    9
    10      template <typename T>
    11      Node<T>::Node(const T& new_entry) {
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)

- Hook 2 (frame variable)
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x000060000020c000

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003985 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::Node(this=0x0
00060000020c000) at Node.hpp:8:1
    5      template <typename T>
    6      Node<T>::Node() {
    7          //          std::cout << "\n---- Node() \n---- AN EMPTY NODE HAS BEEN CREATED [0" << entry << " -> nullptr]" << std::endl;
-> 8      }
    9
    10      template <typename T>
    11      Node<T>::Node(const T& new_entry) {
Target 0: (lab05) stopped.
(lldb) thread step-in

- Hook 1 (expr -- position)
(int) $26 = 1

```

```

- Hook 2 (frame variable)
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010
(int) position = 1
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) newNode = nullptr

Process 50269 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002aaf lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getEntr
y(this=0x0000600000008010, position=1) at LinkedList.hpp:157:17
    154         if (valid_position) {
    155
    156             Node<T>* newNode = nullptr;
-> 157             newNode = new Node<T>();
    158             newNode = getNodeAt(position);
    159
    160             return (newNode -> getEntry());
Target 0: (lab05) stopped.
(lldb) quit
Quitting LLDB will kill one or more processes. Do you really want to proceed: [Y/n] Y
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make clean
rm *.o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make
g++ -g -std=c++11 -Wall -c main.cpp
main.cpp:40:2: error: expected '(' for function-style cast or type construction
    std::cout << std::endl;
    ^
1 error generated.
make: *** [main.o] Error 1
owner@morgan ~/D/1/E/EECS268-Lab05 (main) [2]> make
g++ -g -std=c++11 -Wall -c main.cpp
main.cpp:38:26: error: expected '(' for function-style cast or type construction
    ~LinkedList<std::string>;
    ~~~~~^
1 error generated.
make: *** [main.o] Error 1
owner@morgan ~/D/1/E/EECS268-Lab05 (main) [2]> make
g++ -g -std=c++11 -Wall -c main.cpp
main.cpp:38:3: error: use of class template 'LinkedList' requires template arguments
    ~LinkedList();
    ^
./LinkedList.h:7:7: note: template is declared here
class LinkedList {
1 error generated.
make: *** [main.o] Error 1
owner@morgan ~/D/1/E/EECS268-Lab05 (main) [2]> make
g++ -g -std=c++11 -Wall -c main.cpp
main.cpp:38:15: error: reference to destructor must be called; did you mean to call it with no arguments?
    groceries -> ~LinkedList<std::string>;
                  ^
1 error generated.
make: *** [main.o] Error 1
owner@morgan ~/D/1/E/EECS268-Lab05 (main) [2]> make
g++ -g -std=c++11 -Wall -c main.cpp
g++ -g -std=c++11 -Wall main.o -o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make clena
make: *** No rule to make target `clena'. Stop.
owner@morgan ~/D/1/E/EECS268-Lab05 (main) [2]> make
make: `lab05' is up to date.
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> ./lab05
1
2
3
4

grocery list:
1. apples
2. bananas
3. sweet potatoes
4. argula

```

```
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make clean
rm *.o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make
g++ -g -std=c++11 -Wall -c main.cpp
g++ -g -std=c++11 -Wall main.o -o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> ./lab05
1
2
3
4
```

grocery list:

1. apples
2. bananas
3. sweet potatoes
4. argula

```
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make clean
rm *.o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make
g++ -g -std=c++11 -Wall -c main.cpp
g++ -g -std=c++11 -Wall main.o -o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> lldb ./lab05
(lldb) target create "./lab05"
Current executable set to '/Users/owner/Desktop/lab05/EECS268-Lab05/EECS268-Lab05/lab05' (x86_64).
(lldb) run
Process 50970 launched: '/Users/owner/Desktop/lab05/EECS268-Lab05/EECS268-Lab05/lab05' (x86_64)
1
2
3
4
```

grocery list:

1. apples
2. bananas
3. sweet potatoes
4. argula

```
Process 50970 exited with status = 0 (0x00000000)
(lldb) b main.cpp:7
Breakpoint 1: where = lab05`main + 23 at main.cpp:9:14, address = 0x0000000100001f27
(lldb) run
Process 50978 launched: '/Users/owner/Desktop/lab05/EECS268-Lab05/EECS268-Lab05/lab05' (x86_64)
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = breakpoint 1.1
    frame #0: 0x0000000100001f27 lab05`main at main.cpp:9:14
    6   int main() {
    7
    8       LinkedList<std::string>* groceries;
->  9       groceries = new LinkedList<std::string>();
    10
    11
    12       try {
Target 0: (lab05) stopped.
(lldb) next
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x0000000100001f58 lab05`main at main.cpp:13:3
    10
    11
    12       try {
->  13         groceries -> insert(1, "apples");
    14         std::cout << groceries -> getLength() << std::endl;
    15         groceries -> insert(2, "bananas");
    16         std::cout << groceries -> getLength() << std::endl;
Target 0: (lab05) stopped.
(lldb) next
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x0000000100001f9b lab05`main at main.cpp:14:16
    11
    12       try {
    13         groceries -> insert(1, "apples");
```

```

-> 14          std::cout << groceries -> getLength() << std::endl;
    15          groceries -> insert(2, "bananas");
    16          std::cout << groceries -> getLength() << std::endl;
    17          groceries -> insert(3, "sweet potatoes");
Target 0: (lab05) stopped.
(lldb) next
1
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x0000000100001fea lab05`main at main.cpp:15:3
    12          try {
    13              groceries -> insert(1, "apples");
    14              std::cout << groceries -> getLength() << std::endl;
-> 15          groceries -> insert(2, "bananas");
    16              std::cout << groceries -> getLength() << std::endl;
    17              groceries -> insert(3, "sweet potatoes");
    18              std::cout << groceries -> getLength() << std::endl;
Target 0: (lab05) stopped.
(lldb) next
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x000000010000202d lab05`main at main.cpp:16:16
    13          groceries -> insert(1, "apples");
    14          std::cout << groceries -> getLength() << std::endl;
    15          groceries -> insert(2, "bananas");
-> 16          std::cout << groceries -> getLength() << std::endl;
    17          groceries -> insert(3, "sweet potatoes");
    18          std::cout << groceries -> getLength() << std::endl;
    19          groceries -> insert(4, "argula");
Target 0: (lab05) stopped.
(lldb) next
2
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x000000010000207c lab05`main at main.cpp:17:3
    14          std::cout << groceries -> getLength() << std::endl;
    15          groceries -> insert(2, "bananas");
    16          std::cout << groceries -> getLength() << std::endl;
-> 17          groceries -> insert(3, "sweet potatoes");
    18          std::cout << groceries -> getLength() << std::endl;
    19          groceries -> insert(4, "argula");
    20          std::cout << groceries -> getLength() << std::endl;
Target 0: (lab05) stopped.
(lldb) next
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000020bf lab05`main at main.cpp:18:16
    15          groceries -> insert(2, "bananas");
    16          std::cout << groceries -> getLength() << std::endl;
    17          groceries -> insert(3, "sweet potatoes");
-> 18          std::cout << groceries -> getLength() << std::endl;
    19          groceries -> insert(4, "argula");
    20          std::cout << groceries -> getLength() << std::endl;
    21          } catch (std::exception &e) {
Target 0: (lab05) stopped.
(lldb) next
3
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x000000010000210e lab05`main at main.cpp:19:3
    16          std::cout << groceries -> getLength() << std::endl;
    17          groceries -> insert(3, "sweet potatoes");
    18          std::cout << groceries -> getLength() << std::endl;
-> 19          groceries -> insert(4, "argula");
    20          std::cout << groceries -> getLength() << std::endl;
    21          } catch (std::exception &e) {
    22          std::cout << e.what() << std::endl;
Target 0: (lab05) stopped.
(lldb) next
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x0000000100002151 lab05`main at main.cpp:20:16
    17          groceries -> insert(3, "sweet potatoes");

```

```

18         std::cout << groceries -> getLength() << std::endl;
19         groceries -> insert(4, "argula");
-> 20         std::cout << groceries -> getLength() << std::endl;
21     } catch (std::exception &e) {
22         std::cout << e.what() << std::endl;
23     }
Target 0: (lab05) stopped.
(lldb) next
4
Process 50978 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000021a0 lab05`main at main.cpp:21:2
18         std::cout << groceries -> getLength() << std::endl;
19         groceries -> insert(4, "argula");
20         std::cout << groceries -> getLength() << std::endl;
-> 21     } catch (std::exception &e) {
22         std::cout << e.what() << std::endl;
23     }
24
Target 0: (lab05) stopped.
(lldb) quit
Quitting LLDB will kill one or more processes. Do you really want to proceed: [Y/n] Y
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make clean
rm *.o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> make
g++ -g -std=c++11 -Wall -c main.cpp
g++ -g -std=c++11 -Wall main.o -o lab05
owner@morgan ~/D/1/E/EECS268-Lab05 (main)> lldb ./lab05
(lldb) target create "./lab05"
Current executable set to '/Users/owner/Desktop/lab05/EECS268-Lab05/EECS268-Lab05/lab05' (x86_64).
(lldb) run
Process 51024 launched: '/Users/owner/Desktop/lab05/EECS268-Lab05/EECS268-Lab05/lab05' (x86_64)

grocery list:
1. apples
2. bananas
3. sweet potatoes
4. argula

Process 51024 exited with status = 0 (0x00000000)
(lldb) b main.cpp:22
Breakpoint 1: where = lab05`main + 597 at main.cpp:22:16, address = 0x00000001000022a5
(lldb) run
Process 51036 launched: '/Users/owner/Desktop/lab05/EECS268-Lab05/EECS268-Lab05/lab05' (x86_64)
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = breakpoint 1.1
    frame #0: 0x00000001000022a5 lab05`main at main.cpp:22:16
19     }
20
21     try {
-> 22         int length = groceries -> getLength();
23
24         std::cout << "\ngrocery list: " << std::endl;
25         for (int i = 1; i <= length; i++) {
Target 0: (lab05) stopped.
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000022c7 lab05`main at main.cpp:24:13
21     try {
22         int length = groceries -> getLength();
23
-> 24         std::cout << "\ngrocery list: " << std::endl;
25         for (int i = 1; i <= length; i++) {
26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
Target 0: (lab05) stopped.
(lldb) next

grocery list:
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x0000000100002301 lab05`main at main.cpp:25:12

```

```

22         int length = groceries -> getLength();
23
24         std::cout << "\ngrocery list: " << std::endl;
-> 25         for (int i = 1; i <= length; i++) {
26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
28

```

Target 0: (lab05) stopped.

(lldb) next

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

frame #0: 0x000000010000231d lab05`main at main.cpp:26:17
23
24         std::cout << "\ngrocery list: " << std::endl;
25         for (int i = 1; i <= length; i++) {
-> 26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
28
29     } catch (std::exception &e) {

```

Target 0: (lab05) stopped.

(lldb) frame variable

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) groceries = 0x0000600000008010

(std::exception &) e = 0x0000000000000000

(std::exception &) e = 0x0000000108551010 {}

(int) length = 4

(int) i = 1

(lldb) frame variable *groceries

```

(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *groceries = {
    headptr = 0x000060000000204020
    m_length = 4
}

```

(lldb) next

1. apples

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

frame #0: 0x00000001000023c1 lab05`main at main.cpp:25:33
22         int length = groceries -> getLength();
23
24         std::cout << "\ngrocery list: " << std::endl;
-> 25         for (int i = 1; i <= length; i++) {
26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
28

```

Target 0: (lab05) stopped.

(lldb) next

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

frame #0: 0x000000010000231d lab05`main at main.cpp:26:17
23
24         std::cout << "\ngrocery list: " << std::endl;
25         for (int i = 1; i <= length; i++) {
-> 26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
28
29     } catch (std::exception &e) {

```

Target 0: (lab05) stopped.

(lldb) next

2. bananas

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

frame #0: 0x00000001000023c1 lab05`main at main.cpp:25:33
22         int length = groceries -> getLength();
23
24         std::cout << "\ngrocery list: " << std::endl;
-> 25         for (int i = 1; i <= length; i++) {
26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
28

```

Target 0: (lab05) stopped.

(lldb) next

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step over

```

frame #0: 0x000000010000231d lab05`main at main.cpp:26:17

```

```

23
24         std::cout << "\ngrocery list: " << std::endl;
25         for (int i = 1; i <= length; i++) {
-> 26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
27         }
28
29     } catch (std::exception &e) {
Target 0: (lab05) stopped.
(lldb) next
3. sweet potatoes
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000023c1 lab05`main at main.cpp:25:33
    22         int length = groceries -> getLength();
    23
    24         std::cout << "\ngrocery list: " << std::endl;
-> 25         for (int i = 1; i <= length; i++) {
    26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
    27         }
    28
Target 0: (lab05) stopped.
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x000000010000231d lab05`main at main.cpp:26:17
    23
    24         std::cout << "\ngrocery list: " << std::endl;
    25         for (int i = 1; i <= length; i++) {
-> 26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
    27         }
    28
    29     } catch (std::exception &e) {
Target 0: (lab05) stopped.
(lldb) next
4. argula
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000023c1 lab05`main at main.cpp:25:33
    22         int length = groceries -> getLength();
    23
    24         std::cout << "\ngrocery list: " << std::endl;
-> 25         for (int i = 1; i <= length; i++) {
    26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
    27         }
    28
Target 0: (lab05) stopped.
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000024ac lab05`main at main.cpp:29:2
    26             std::cout << i << ". " << groceries -> getEntry(i) << std::endl;
    27         }
    28
-> 29     } catch (std::exception &e) {
    30         std::cerr << e.what() << std::endl;
    31     }
    32
Target 0: (lab05) stopped.
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x0000000100002485 lab05`main at main.cpp:33:2
    30         std::cerr << e.what() << std::endl;
    31     }
    32
-> 33     groceries -> ~LinkedList<std::string>();
    34
    35     std::cout << std::endl;
    36     return (0);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in

```



```

    frame #0: 0x0000000100002940 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~LinkedList
List(this=0x0000600000000010) at LinkedList.hpp:115:29
    112 }
    113
    114 template <typename T>
-> 115 LinkedList<T>::~LinkedList(){
    116     clear();
    117 }
    118
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003840 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~LinkedList
List(this=0x0000600000000010) at LinkedList.hpp:116:2
    113
    114 template <typename T>
    115 LinkedList<T>::~LinkedList(){
-> 116     clear();
    117 }
    118
    119
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003878 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~clear(t
his=0x0000600000000010) at LinkedList.hpp:94:10
    91
    92 template <typename T>
    93 void LinkedList<T>::~clear() {
-> 94     while (!isEmpty()) {
    95         remove(1);
    96     }
    97 }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038bc lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~isEmpty
(this=0x0000600000000010) const at LinkedList.hpp:31:15
    28
    29 template <typename T>
    30 bool LinkedList<T>::~isEmpty() const {
-> 31     if (m_length == 0) {
    32         return(true);
    33     }
    34     return(false);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038cf lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~isEmpty
(this=0x0000600000000010) const at LinkedList.hpp:34:2
    31     if (m_length == 0) {
    32         return(true);
    33     }
-> 34     return(false);
    35 }
    36
    37 template <typename T>
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038d3 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~isEmpty
(this=0x0000600000000010) const at LinkedList.hpp:35:1
    32         return(true);
    33     }
    34     return(false);
-> 35 }
    36
    37 template <typename T>

```

```

38  int LinkedList<T>::getLength() const {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000387d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000000010) at LinkedList.hpp:94:9
91
92  template <typename T>
93  void LinkedList<T>::clear() {
-> 94      while (!isEmpty()) {
95          remove(1);
96      }
97  }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003890 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000000010) at LinkedList.hpp:95:3
92  template <typename T>
93  void LinkedList<T>::clear() {
94      while (!isEmpty()) {
-> 95          remove(1);
96      }
97  }
98
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038f9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:70:34
67  template <typename T>
68  bool LinkedList<T>::remove(int position) {
69
-> 70      bool valid_position = (position >= 1) && (position <= m_length);
71      if (valid_position) {
72          Node<T>* prev_ptr = nullptr;
73          Node<T>* target_ptr = nullptr;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000391e lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:71:6
68  bool LinkedList<T>::remove(int position) {
69
70      bool valid_position = (position >= 1) && (position <= m_length);
-> 71      if (valid_position) {
72          Node<T>* prev_ptr = nullptr;
73          Node<T>* target_ptr = nullptr;
74          if (position == 1) {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003928 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:72:12
69
70      bool valid_position = (position >= 1) && (position <= m_length);
71      if (valid_position) {
-> 72          Node<T>* prev_ptr = nullptr;
73          Node<T>* target_ptr = nullptr;
74          if (position == 1) {
75              target_ptr = headptr;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003930 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:73:12
70      bool valid_position = (position >= 1) && (position <= m_length);

```

```

71         if (valid_position) {
72             Node<T>* prev_ptr = nullptr;
-> 73             Node<T>* target_ptr = nullptr;
74             if (position == 1) {
75                 target_ptr = headptr;
76                 headptr = headptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003938 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000008010, position=1) at LinkedList.hpp:74:16
71         if (valid_position) {
72             Node<T>* prev_ptr = nullptr;
73             Node<T>* target_ptr = nullptr;
-> 74             if (position == 1) {
75                 target_ptr = headptr;
76                 headptr = headptr -> getNext();
77             } else {
Target 0: (lab05) stopped.
(lldb) frame variable
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000008010
(int) position = 1
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) prev_ptr = nullptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = nullptr
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003946 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000008010, position=1) at LinkedList.hpp:75:17
72             Node<T>* prev_ptr = nullptr;
73             Node<T>* target_ptr = nullptr;
74             if (position == 1) {
-> 75                 target_ptr = headptr;
76                 headptr = headptr -> getNext();
77             } else {
78                 prev_ptr = getNodeAt(position - 1);
Target 0: (lab05) stopped.
(lldb) frame variable target_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = nullptr
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000394d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000008010, position=1) at LinkedList.hpp:76:14
73             Node<T>* target_ptr = nullptr;
74             if (position == 1) {
75                 target_ptr = headptr;
-> 76                 headptr = headptr -> getNext();
77             } else {
78                 prev_ptr = getNodeAt(position - 1);
79                 target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) frame variable target_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = 0x0000600000204020
(lldb) frame variable *target_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) *target_ptr = {
    entry = "apples"
    next_node = 0x0000600000204040
}
(lldb) frame variable target_ptr
Available completions:
    this
    position
    valid_position
    prev_ptr
    target_ptr
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x000000010000395f lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000008010, position=1) at LinkedList.hpp:77:3

```

```

74         if (position == 1) {
75             target_ptr = headptr;
76             headptr = headptr -> getNext();
-> 77         } else {
78             prev_ptr = getNodeAt(position - 1);
79             target_ptr = prev_ptr -> getNext();
80             prev_ptr -> setNext(target_ptr -> getNext());
Target 0: (lab05) stopped.
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000039a5 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:82:3
    79             target_ptr = prev_ptr -> getNext();
    80             prev_ptr -> setNext(target_ptr -> getNext());
    81         }
-> 82         target_ptr -> setNext(nullptr);
    83         delete target_ptr;
    84         target_ptr = nullptr;
    85         m_length--;
Target 0: (lab05) stopped.
(lldb) next
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step over
    frame #0: 0x00000001000039ae lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:83:10
    80             prev_ptr -> setNext(target_ptr -> getNext());
    81         }
    82         target_ptr -> setNext(nullptr);
-> 83         delete target_ptr;
    84         target_ptr = nullptr;
    85         m_length--;
    86     } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a70 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000060000000204020) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a90 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000060000000204020) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a75 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000060000000204020) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.

```

```

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039c9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:83:3
    80         prev_ptr -> setNext(target_ptr -> getNext());
    81     }
    82     target_ptr -> setNext(nullptr);
-> 83     delete target_ptr;
    84     target_ptr = nullptr;
    85     m_length--;
    86 } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039d6 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:84:14
    81     }
    82     target_ptr -> setNext(nullptr);
    83     delete target_ptr;
-> 84     target_ptr = nullptr;
    85     m_length--;
    86 } else {
    87     throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039de lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:85:11
    82     target_ptr -> setNext(nullptr);
    83     delete target_ptr;
    84     target_ptr = nullptr;
-> 85     m_length--;
    86 } else {
    87     throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
    88 }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039e7 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:86:2
    83     delete target_ptr;
    84     target_ptr = nullptr;
    85     m_length--;
-> 86 } else {
    87     throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
    88 }
    89     return (valid_position);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a42 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:89:10
    86     } else {
    87     throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
    88     }
-> 89     return (valid_position);
    90 }
    91
    92     template <typename T>
Target 0: (lab05) stopped.
(lldb) frame variable
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000000010
(int) position = 1
(bool) valid_position = true
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000389a lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t

```

his=0x0000600000008010) at [LinkedList.hpp:94:2](#)

```
91
92     template <typename T>
93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
95             remove(1);
96         }
97     }
```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = **step in**

frame #0: 0x0000000100003878 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000008010) at [LinkedList.hpp:94:10](#)

```
91
92     template <typename T>
93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
95             remove(1);
96         }
97     }
```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = **step in**

frame #0: 0x00000001000038bc lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x0000600000008010) const at [LinkedList.hpp:31:15](#)

```
28
29     template <typename T>
30     bool LinkedList<T>::isEmpty() const {
-> 31         if (m_length == 0) {
32             return(true);
33         }
34         return(false);
```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = **step in**

frame #0: 0x00000001000038cf lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x0000600000008010) const at [LinkedList.hpp:34:2](#)

```
31         if (m_length == 0) {
32             return(true);
33         }
-> 34         return(false);
35     }
36
37     template <typename T>
```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = **step in**

frame #0: 0x00000001000038d3 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x0000600000008010) const at [LinkedList.hpp:35:1](#)

```
32         return(true);
33     }
34     return(false);
-> 35 }
36
37     template <typename T>
38     int LinkedList<T>::getLength() const {
```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = **step in**

frame #0: 0x000000010000387d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000008010) at [LinkedList.hpp:94:9](#)

```
91
92     template <typename T>
93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
95             remove(1);
96         }
97     }
```

```

Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003890 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:95:3
    92     template <typename T>
    93     void LinkedList<T>::clear() {
    94         while (!isEmpty()) {
-> 95             remove(1);
    96         }
    97     }
    98

Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038f9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:70:34
    67     template <typename T>
    68     bool LinkedList<T>::remove(int position) {
    69
-> 70         bool valid_position = (position >= 1) && (position <= m_length);
    71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;

Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000391e lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:71:6
    68     bool LinkedList<T>::remove(int position) {
    69
    70         bool valid_position = (position >= 1) && (position <= m_length);
-&> 71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {

Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003928 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:72:12
    69
    70         bool valid_position = (position >= 1) && (position <= m_length);
    71         if (valid_position) {
-&> 72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
    75                 target_ptr = headptr;

Target 0: (lab05) stopped.
(lldb) frame variable
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x00006000000008010
(int) position = 1
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) prev_ptr = nullptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = nullptr
(lldb) frame variable
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x00006000000008010
(int) position = 1
(bool) valid_position = true
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) prev_ptr = nullptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) target_ptr = nullptr
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003930 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:73:12
    70         bool valid_position = (position >= 1) && (position <= m_length);
    71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;

```

```

-> 73         Node<T>* target_ptr = nullptr;
74         if (position == 1) {
75             target_ptr = headptr;
76             headptr = headptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003938 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:74:16
71             if (valid_position) {
72                 Node<T>* prev_ptr = nullptr;
73                 Node<T>* target_ptr = nullptr;
-> 74                 if (position == 1) {
75                     target_ptr = headptr;
76                     headptr = headptr -> getNext();
77                 } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003946 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:75:17
72                 Node<T>* prev_ptr = nullptr;
73                 Node<T>* target_ptr = nullptr;
74                 if (position == 1) {
-> 75                     target_ptr = headptr;
76                     headptr = headptr -> getNext();
77                 } else {
78                     prev_ptr = getNodeAt(position - 1);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000394d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:76:14
73                 Node<T>* target_ptr = nullptr;
74                 if (position == 1) {
75                     target_ptr = headptr;
-> 76                     headptr = headptr -> getNext();
77                 } else {
78                     prev_ptr = getNodeAt(position - 1);
79                     target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002abc lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getNext(this=
0x0000600000002040) const at Node.hpp:38:9
35
36     template <typename T>
37     Node<T>* Node<T>::getNext() const {
-> 38         return(next_node);
39     }
Target 0: (lab05) stopped.
(lldb) frame variable
(const Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000204040
(lldb) frame variable --no-args
(lldb) frame variable next_node
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) next_node = 0x0000600000204060
(lldb) frame variable *next_node
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) *next_node = {
    entry = "sweet potatoes"
    next_node = 0x0000600000204080
}
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003955 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:76:25
73                 Node<T>* target_ptr = nullptr;
74                 if (position == 1) {
75                     target_ptr = headptr;

```



```

-> 76             headptr = headptr -> getNext();
77         } else {
78             prev_ptr = getNodeAt(position - 1);
79             target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000395f lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000008010, position=1) at LinkedList.hpp:77:3
74             if (position == 1) {
75                 target_ptr = headptr;
76                 headptr = headptr -> getNext();
-> 77             } else {
78                 prev_ptr = getNodeAt(position - 1);
79                 target_ptr = prev_ptr -> getNext();
80                 prev_ptr -> setNext(target_ptr -> getNext());
Target 0: (lab05) stopped.
(lldb) frame variable *headptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *headptr = {
    entry = "sweet potatoes"
    next_node = 0x0000600000204080
}
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039a5 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000008010, position=1) at LinkedList.hpp:82:3
79             target_ptr = prev_ptr -> getNext();
80             prev_ptr -> setNext(target_ptr -> getNext());
81         }
-> 82         target_ptr -> setNext(nullptr);
83         delete target_ptr;
84         target_ptr = nullptr;
85         m_length--;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000029b0 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::setNext(this=
0x0000600000204040, new_next_node=0x0000000000000000) at Node.hpp:28:14
25
26     template <typename T>
27     void Node<T>::setNext(Node<T>* new_next_node) {
-> 28         next_node = new_next_node;
29     }
30
31     template <typename T>
Target 0: (lab05) stopped.
(lldb) frame variable
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x0000600000204040
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) new_next_node = nullptr
(lldb) frame variable next_node
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) next_node = 0x0000600000204060
(lldb) frame variable *next_node
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *next_node = {
    entry = "sweet potatoes"
    next_node = 0x0000600000204080
}
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000029b8 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::setNext(this=
0x0000600000204040, new_next_node=0x0000000000000000) at Node.hpp:29:1
26     template <typename T>
27     void Node<T>::setNext(Node<T>* new_next_node) {
28         next_node = new_next_node;
-> 29 }
30
31     template <typename T>
32     T Node<T>::getEntry() const {
Target 0: (lab05) stopped.
(lldb) frame variable *next_node

```

```

(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *next_node = <parent is NULL>

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039ae lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:83:10
    80         prev_ptr -> setNext(target_ptr -> getNext());
    81     }
    82     target_ptr -> setNext(nullptr);
-> 83     delete target_ptr;
    84     target_ptr = nullptr;
    85     m_length--;
    86 } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a70 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
0000600000020404) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a90 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
0000600000020404) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a75 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
0000600000020404) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039c9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:83:3
    80         prev_ptr -> setNext(target_ptr -> getNext());
    81     }
    82     target_ptr -> setNext(nullptr);
-> 83     delete target_ptr;
    84     target_ptr = nullptr;
    85     m_length--;
    86 } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039d6 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:84:14
    81     }

```

```

82         target_ptr -> setNext(nullptr);
83         delete target_ptr;
-> 84         target_ptr = nullptr;
85         m_length--;
86     } else {
87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
Target 0: (lab05) stopped.
(lldb) frame variable *target_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *target_ptr = {
    entry = Summary Unavailable
    next_node = nullptr
}
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039de lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:85:11
82         target_ptr -> setNext(nullptr);
83         delete target_ptr;
84         target_ptr = nullptr;
-> 85         m_length--;
86     } else {
87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
88     }
Target 0: (lab05) stopped.
(lldb) frame variable *target_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *target_ptr = <parent is NULL>

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039e7 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:86:2
83         delete target_ptr;
84         target_ptr = nullptr;
85         m_length--;
-> 86     } else {
87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
88     }
89     return (valid_position);
Target 0: (lab05) stopped.
(lldb) frame variable *target_ptr
(Node<std::basic_string<char, std::char_traits<char>, std::allocator<char> > >) *target_ptr = <parent is NULL>

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a42 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x00006000000008010, position=1) at LinkedList.hpp:89:10
86     } else {
87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
88     }
-> 89     return (valid_position);
90 }
91
92 template <typename T>
Target 0: (lab05) stopped.
(lldb) frame variables
invalid command 'frame variables'.
(lldb) frame variable
(LinkedList<std::basic_string<char, std::char_traits<char>, std::allocator<char> > > *) this = 0x00006000000008010
(int) position = 1
(bool) valid_position = true
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000389a lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:2
91
92 template <typename T>
93 void LinkedList<T>::clear() {
-> 94     while (!isEmpty()) {
95         remove(1);

```

```

96     }
97 }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003878 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:10
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038bc lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x00006000000008010) const at LinkedList.hpp:31:15
    28
    29     template <typename T>
    30     bool LinkedList<T>::isEmpty() const {
-> 31         if (m_length == 0) {
    32             return(true);
    33         }
    34         return(false);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038cf lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x00006000000008010) const at LinkedList.hpp:34:2
    31         if (m_length == 0) {
    32             return(true);
    33         }
-> 34         return(false);
    35     }
    36
    37     template <typename T>
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038d3 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x00006000000008010) const at LinkedList.hpp:35:1
    32             return(true);
    33         }
    34         return(false);
-> 35     }
    36
    37     template <typename T>
    38     int LinkedList<T>::getLength() const {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000387d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:9
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003890 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:95:3

```

```

92     template <typename T>
93     void LinkedList<T>::clear() {
94         while (!isEmpty()) {
-> 95             remove(1);
96         }
97     }
98

```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x00000001000038f9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(this=0x0000600000000010, position=1) at LinkedList.hpp:70:34

```

67     template <typename T>
68     bool LinkedList<T>::remove(int position) {
69
-> 70         bool valid_position = (position >= 1) && (position <= m_length);
71         if (valid_position) {
72             Node<T>* prev_ptr = nullptr;
73             Node<T>* target_ptr = nullptr;

```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x000000010000391e lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(this=0x0000600000000010, position=1) at LinkedList.hpp:71:6

```

68     bool LinkedList<T>::remove(int position) {
69
70         bool valid_position = (position >= 1) && (position <= m_length);
-> 71         if (valid_position) {
72             Node<T>* prev_ptr = nullptr;
73             Node<T>* target_ptr = nullptr;
74             if (position == 1) {

```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x0000000100003928 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(this=0x0000600000000010, position=1) at LinkedList.hpp:72:12

```

69
70         bool valid_position = (position >= 1) && (position <= m_length);
71         if (valid_position) {
-> 72             Node<T>* prev_ptr = nullptr;
73             Node<T>* target_ptr = nullptr;
74             if (position == 1) {
75                 target_ptr = headptr;

```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x0000000100003930 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(this=0x0000600000000010, position=1) at LinkedList.hpp:73:12

```

70         bool valid_position = (position >= 1) && (position <= m_length);
71         if (valid_position) {
72             Node<T>* prev_ptr = nullptr;
-> 73             Node<T>* target_ptr = nullptr;
74             if (position == 1) {
75                 target_ptr = headptr;
76                 headptr = headptr -> getNext();

```

Target 0: (lab05) stopped.

(lldb) thread step-in

Process 51036 stopped

* thread #1, queue = 'com.apple.main-thread', stop reason = step in

frame #0: 0x0000000100003938 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(this=0x0000600000000010, position=1) at LinkedList.hpp:74:16

```

71         if (valid_position) {
72             Node<T>* prev_ptr = nullptr;
73             Node<T>* target_ptr = nullptr;
-> 74             if (position == 1) {
75                 target_ptr = headptr;
76                 headptr = headptr -> getNext();
77             } else {

```

Target 0: (lab05) stopped.

```

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003946 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:75:17
    72         Node<T>* prev_ptr = nullptr;
    73         Node<T>* target_ptr = nullptr;
    74         if (position == 1) {
-> 75             target_ptr = headptr;
    76             headptr = headptr -> getNext();
    77         } else {
    78             prev_ptr = getNodeAt(position - 1);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000394d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:76:14
    73         Node<T>* target_ptr = nullptr;
    74         if (position == 1) {
    75             target_ptr = headptr;
-> 76             headptr = headptr -> getNext();
    77         } else {
    78             prev_ptr = getNodeAt(position - 1);
    79             target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002abc lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getNext(this=
0x000060000000204060) const at Node.hpp:38:9
    35
    36     template <typename T>
    37     Node<T>* Node<T>::getNext() const {
-> 38         return(next_node);
    39     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003955 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:76:25
    73         Node<T>* target_ptr = nullptr;
    74         if (position == 1) {
    75             target_ptr = headptr;
-> 76             headptr = headptr -> getNext();
    77         } else {
    78             prev_ptr = getNodeAt(position - 1);
    79             target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000395f lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:77:3
    74         if (position == 1) {
    75             target_ptr = headptr;
    76             headptr = headptr -> getNext();
-> 77         } else {
    78             prev_ptr = getNodeAt(position - 1);
    79             target_ptr = prev_ptr -> getNext();
    80             prev_ptr -> setNext(target_ptr -> getNext());
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039a5 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:82:3
    79             target_ptr = prev_ptr -> getNext();
    80             prev_ptr -> setNext(target_ptr -> getNext());
    81         }
-> 82         target_ptr -> setNext(nullptr);
    83         delete target_ptr;

```

```

84         target_ptr = nullptr;
85         m_length--;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100029b0 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::setNext(this=
0x000000000204060, new_next_node=0x000000000000000) at Node.hpp:28:14
25
26     template <typename T>
27     void Node<T>::setNext(Node<T>* new_next_node) {
-> 28         next_node = new_next_node;
29     }
30
31     template <typename T>
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100029b8 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::setNext(this=
0x000000000204060, new_next_node=0x000000000000000) at Node.hpp:29:1
26     template <typename T>
27     void Node<T>::setNext(Node<T>* new_next_node) {
28         next_node = new_next_node;
-> 29     }
30
31     template <typename T>
32     T Node<T>::getEntry() const {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100039ae lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000000000000010, position=1) at LinkedList.hpp:83:10
80         prev_ptr -> setNext(target_ptr -> getNext());
81     }
82     target_ptr -> setNext(nullptr);
-> 83     delete target_ptr;
84     target_ptr = nullptr;
85     m_length--;
86     } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010003a70 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000000000204060) at Node.h:5:7
2     #define Node_h
3
4     template <typename T>
-> 5     class Node {
6
7     private:
8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010003a90 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000000000204060) at Node.h:5:7
2     #define Node_h
3
4     template <typename T>
-> 5     class Node {
6
7     private:
8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010003a75 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000000000204060) at Node.h:5:7

```

```

2  #define Node_h
3
4  template <typename T>
-> 5  class Node {
6
7      private:
8          T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039c9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:83:3
    80          prev_ptr -> setNext(target_ptr -> getNext());
    81      }
    82      target_ptr -> setNext(nullptr);
-> 83      delete target_ptr;
    84      target_ptr = nullptr;
    85      m_length--;
    86  } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039d6 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:84:14
    81      }
    82      target_ptr -> setNext(nullptr);
    83      delete target_ptr;
-> 84      target_ptr = nullptr;
    85      m_length--;
    86  } else {
    87      throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039de lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:85:11
    82      target_ptr -> setNext(nullptr);
    83      delete target_ptr;
    84      target_ptr = nullptr;
-> 85      m_length--;
    86  } else {
    87      throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
    88  }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039e7 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:86:2
    83      delete target_ptr;
    84      target_ptr = nullptr;
    85      m_length--;
-> 86  } else {
    87      throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
    88  }
    89      return (valid_position);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a42 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:89:10
    86  } else {
    87      throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist.));
    88  }
-> 89      return (valid_position);
    90  }
    91
    92  template <typename T>
Target 0: (lab05) stopped.

```



```

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000389a lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:2
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
->  94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003878 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:10
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
->  94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038bc lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x00006000000008010) const at LinkedList.hpp:31:15
    28
    29     template <typename T>
    30     bool LinkedList<T>::isEmpty() const {
->  31         if (m_length == 0) {
    32             return(true);
    33         }
    34         return(false);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038cf lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x00006000000008010) const at LinkedList.hpp:34:2
    31         if (m_length == 0) {
    32             return(true);
    33         }
->  34         return(false);
    35     }
    36
    37     template <typename T>
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038d3 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x00006000000008010) const at LinkedList.hpp:35:1
    32             return(true);
    33         }
    34         return(false);
->  35     }
    36
    37     template <typename T>
    38     int LinkedList<T>::getLength() const {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000387d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:9
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {

```

```

-> 94         while (!isEmpty()) {
95             remove(1);
96         }
97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003890 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000000010) at LinkedList.hpp:95:3
    92     template <typename T>
    93     void LinkedList<T>::clear() {
    94         while (!isEmpty()) {
-> 95             remove(1);
    96         }
    97     }
    98
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038f9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:70:34
    67     template <typename T>
    68     bool LinkedList<T>::remove(int position) {
    69
-> 70         bool valid_position = (position >= 1) && (position <= m_length);
    71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000391e lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:71:6
    68     bool LinkedList<T>::remove(int position) {
    69
    70         bool valid_position = (position >= 1) && (position <= m_length);
-> 71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003928 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:72:12
    69
    70         bool valid_position = (position >= 1) && (position <= m_length);
    71         if (valid_position) {
-> 72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
    75                 target_ptr = headptr;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003930 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:73:12
    70         bool valid_position = (position >= 1) && (position <= m_length);
    71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;
-> 73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
    75                 target_ptr = headptr;
    76                 headptr = headptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in

```

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    frame #0: 0x0000000100003938 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:74:16
    71         if (valid_position) {
    72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
-> 74             if (position == 1) {
    75                 target_ptr = headptr;
    76                 headptr = headptr -> getNext();
    77             } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003946 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:75:17
    72             Node<T>* prev_ptr = nullptr;
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
-> 75                 target_ptr = headptr;
    76                 headptr = headptr -> getNext();
    77             } else {
    78                 prev_ptr = getNodeAt(position - 1);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000394d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:76:14
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
    75                 target_ptr = headptr;
-> 76                 headptr = headptr -> getNext();
    77             } else {
    78                 prev_ptr = getNodeAt(position - 1);
    79                 target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002abc lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::getNext(this=
0x000060000000204080) const at Node.hpp:38:9
    35
    36     template <typename T>
    37     Node<T>* Node<T>::getNext() const {
-> 38         return(next_node);
    39     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003955 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:76:25
    73             Node<T>* target_ptr = nullptr;
    74             if (position == 1) {
    75                 target_ptr = headptr;
-> 76                 headptr = headptr -> getNext();
    77             } else {
    78                 prev_ptr = getNodeAt(position - 1);
    79                 target_ptr = prev_ptr -> getNext();
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000395f lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:77:3
    74             if (position == 1) {
    75                 target_ptr = headptr;
    76                 headptr = headptr -> getNext();
-> 77             } else {
    78                 prev_ptr = getNodeAt(position - 1);
    79                 target_ptr = prev_ptr -> getNext();
    80                 prev_ptr -> setNext(target_ptr -> getNext());
Target 0: (lab05) stopped.

```

```

(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039a5 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:82:3
    79         target_ptr = prev_ptr -> getNext();
    80         prev_ptr -> setNext(target_ptr -> getNext());
    81     }
-> 82         target_ptr -> setNext(nullptr);
    83         delete target_ptr;
    84         target_ptr = nullptr;
    85         m_length--;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000029b0 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::setNext(this=
0x000060000000204080, new_next_node=0x0000000000000000) at Node.hpp:28:14
    25
    26     template <typename T>
    27     void Node<T>::setNext(Node<T>* new_next_node) {
-> 28         next_node = new_next_node;
    29     }
    30
    31     template <typename T>
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000029b8 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::setNext(this=
0x000060000000204080, new_next_node=0x0000000000000000) at Node.hpp:29:1
    26     template <typename T>
    27     void Node<T>::setNext(Node<T>* new_next_node) {
    28         next_node = new_next_node;
-> 29     }
    30
    31     template <typename T>
    32     T Node<T>::getEntry() const {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039ae lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000000, position=1) at LinkedList.hpp:83:10
    80         prev_ptr -> setNext(target_ptr -> getNext());
    81     }
    82         target_ptr -> setNext(nullptr);
-> 83         delete target_ptr;
    84         target_ptr = nullptr;
    85         m_length--;
    86     } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a70 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000060000000204080) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>
-> 5     class Node {
    6
    7     private:
    8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a90 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x
000060000000204080) at Node.h:5:7
    2     #define Node_h
    3
    4     template <typename T>

```

```

-> 5     class Node {
      6
      7     private:
      8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003a75 lab05`Node<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Node(this=0x000060000204080) at Node.h:5:7
      2     #define Node_h
      3
      4     template <typename T>
-> 5     class Node {
      6
      7     private:
      8         T entry;
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039c9 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~remove(this=0x0000600000000010, position=1) at LinkedList.hpp:83:3
      80         prev_ptr -> setNext(target_ptr -> getNext());
      81     }
      82         target_ptr -> setNext(nullptr);
-> 83         delete target_ptr;
      84         target_ptr = nullptr;
      85         m_length--;
      86     } else {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039d6 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~remove(this=0x0000600000000010, position=1) at LinkedList.hpp:84:14
      81     }
      82         target_ptr -> setNext(nullptr);
      83         delete target_ptr;
-> 84         target_ptr = nullptr;
      85         m_length--;
      86     } else {
      87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039de lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~remove(this=0x0000600000000010, position=1) at LinkedList.hpp:85:11
      82         target_ptr -> setNext(nullptr);
      83         delete target_ptr;
      84         target_ptr = nullptr;
-> 85         m_length--;
      86     } else {
      87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
      88     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000039e7 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~remove(this=0x0000600000000010, position=1) at LinkedList.hpp:86:2
      83         delete target_ptr;
      84         target_ptr = nullptr;
      85         m_length--;
-> 86     } else {
      87         throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
      88     }
      89     return (valid_position);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in

```

```

    frame #0: 0x0000000100003a42 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::remove(
this=0x0000600000000010, position=1) at LinkedList.hpp:89:10
    86         } else {
    87             throw (std::runtime_error("position is invalid, and thus the node requested to be removed does not exist."));
    88         }
-> 89         return (valid_position);
    90     }
    91
    92     template <typename T>
Target 0: (lab05) stopped.
(lldb) frame variable m_length
(int) m_length = 0
(lldb) frame variable m_length
(int) m_length = 0
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000389a lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000000010) at LinkedList.hpp:94:2
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003878 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x0000600000000010) at LinkedList.hpp:94:10
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038bc lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x0000600000000010) const at LinkedList.hpp:31:15
    28
    29     template <typename T>
    30     bool LinkedList<T>::isEmpty() const {
-> 31         if (m_length == 0) {
    32             return(true);
    33         }
    34         return(false);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038c6 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x0000600000000010) const at LinkedList.hpp:32:3
    29     template <typename T>
    30     bool LinkedList<T>::isEmpty() const {
    31         if (m_length == 0) {
-> 32             return(true);
    33         }
    34         return(false);
    35     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000038d3 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::isEmpty
(this=0x0000600000000010) const at LinkedList.hpp:35:1
    32         return(true);
    33     }

```

```

34         return(false);
-> 35     }
36
37     template <typename T>
38     int LinkedList<T>::getLength() const {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000387d lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:94:9
    91
    92     template <typename T>
    93     void LinkedList<T>::clear() {
-> 94         while (!isEmpty()) {
    95             remove(1);
    96         }
    97     }
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000389f lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::clear(t
his=0x00006000000008010) at LinkedList.hpp:97:1
    94         while (!isEmpty()) {
    95             remove(1);
    96         }
-> 97     }
    98
    99     template <typename T>
   100     T LinkedList<T>::getEntry(int position) {
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100003845 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Linked
List(this=0x00006000000008010) at LinkedList.hpp:116:2
   113
   114     template <typename T>
   115     LinkedList<T>::~LinkedList(){
-> 116         clear();
   117     }
   118
   119
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000384a lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Linked
List(this=0x00006000000008010) at LinkedList.hpp:117:1
   114     template <typename T>
   115     LinkedList<T>::~LinkedList(){
   116         clear();
-> 117     }
   118
   119
   120
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x0000000100002945 lab05`LinkedList<std::__1::basic_string<char, std::__1::char_traits<char>, std::__1::allocator<char> > >::~Linked
List(this=0x00006000000008010) at LinkedList.hpp:117:1
   114     template <typename T>
   115     LinkedList<T>::~LinkedList(){
   116         clear();
-> 117     }
   118
   119
   120
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped

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* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000248e lab05`main at main.cpp:33:15
    30         std::cerr << e.what() << std::endl;
    31     }
    32
-> 33         groceries -> ~LinkedList<std::string>();
    34
    35         std::cout << std::endl;
    36         return (0);
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x000000010000249c lab05`main at main.cpp:35:12
    32
    33         groceries -> ~LinkedList<std::string>();
    34
-> 35         std::cout << std::endl;
    36         return (0);
    37     }
    38
Target 0: (lab05) stopped.
(lldb) thread step-in

Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000001000024a3 lab05`main at main.cpp:36:2
    33         groceries -> ~LinkedList<std::string>();
    34
    35         std::cout << std::endl;
-> 36         return (0);
    37     }
    38
    39
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = step in
    frame #0: 0x00000002000194fe dyld`start + 462
dyld`start:
-> 0x2000194fe <+462>: movl    %eax, %r14d
    0x200019501 <+465>: movq    0x8(%rbx), %rax
    0x200019505 <+469>: movl    0x34(%rax), %edi
    0x200019508 <+472>: xorl    %esi, %esi
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = instruction step into
    frame #0: 0x0000000200019501 dyld`start + 465
dyld`start:
-> 0x200019501 <+465>: movq    0x8(%rbx), %rax
    0x200019505 <+469>: movl    0x34(%rax), %edi
    0x200019508 <+472>: xorl    %esi, %esi
    0x20001950a <+474>: callq  0x200045a26             ; dyld3::MachOFile::isSimulatorPlatform(dyld3::Platform, dyld3::Platform*)
Target 0: (lab05) stopped.
(lldb) thread step-in
Process 51036 stopped
* thread #1, queue = 'com.apple.main-thread', stop reason = instruction step into
    frame #0: 0x0000000200019505 dyld`start + 469
dyld`start:
-> 0x200019505 <+469>: movl    0x34(%rax), %edi
    0x200019508 <+472>: xorl    %esi, %esi
    0x20001950a <+474>: callq  0x200045a26             ; dyld3::MachOFile::isSimulatorPlatform(dyld3::Platform, dyld3::Platform*)
    0x20001950f <+479>: testb  %al, %al
Target 0: (lab05) stopped.
(lldb) quit
Quitting LLDB will kill one or more processes. Do you really want to proceed: [Y/n] Y
owner@morgan ~/D/1/E/EECS268-Lab05 (main)>

```