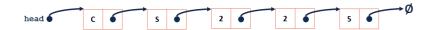


#10: List Implementations
February 7, 2018 · Wade Fagen-Ulmschneider

Finding in a list:

```
List.cpp
    #include "List.h"
 2
    ListNode *& List::_find(unsigned index) const {
      if (index == 0) { return head;}
 4
 5
 6
      ListNode * thru = head;
 7
      for (unsigned i = 0; i < index - 1; i++) { thru = thru->next;
 8
 9
10
11
    } return thru->next;
```

What is the return type of **_find**?



Building functionality with _find():

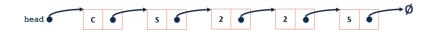
```
List.cpp
    T & List::get(unsigned index) const {
12
13
14
15
16
```



List.cpp - insert() T & List::insert(T & t, unsigned index) { 12 13 14 15 16



```
List.cpp - remove()
    T & List::remove(unsigned index) {
12
13
14
15
16
```



List Implementation #2:

```
#ifndef LIST H
    #define LIST H
    template <class T>
    class List {
     public:
         /* ... */
28
     private:
29
30
31
32
    };
33
   #endif
```

Array - Implementation Details:

С	S	2	2	5
[0]	[1]	[2]	[3]	[4]

1. What is the running time of insertFront()?

С	S	2	2	5
[0]	[1]	[2]	[3]	[4]

2. What is our resize strategy?

Resize Strategy #1:

				1		

Resize Strategy #2:

3. What is the running time of get()?

T* arr:		С	S	2	2	5	
	T* zei	[0]	[1]	[2]	[3]	[4]	

	Singly Linked List	Array
Insert/Remove at front		
Insert after a given element		
Remove after a given element		
Insert at arbitrary location		
Remove at arbitrary location		

Stack ADT

Function Name	Purpose

CS 225 – Things To Be Doing:

- Programming Exam A starts Feb. 13 (6 days from today)
 MP2 due Feb. 12 (5 days from now), earn extra credit starting early!
- 3. Lab Extra Credit → Attendance in your registered lab section!
- **4.** Daily POTDs