



Array Lists

Learning Objectives

1. Understand the Array List implementation of List ADT



List ADT

1. Insert Front/Back
2. Remove Front/Back
3. Access Front/Back
4. isEmpty?
5. Make List



Array List Implementation

C	S	2	2	5	
---	---	---	---	---	--



List.h

```
1 #pragma once
2
3 template <class T>
4 class List {
5     public:
6         /* ... */
28     insertAtFront(const T &data);
29     private:
30         T * data_;
31
32
33 };
34
35
36
37
38
39
...
...
79
```

C

S

2

2

5



Array List Implementation

C	S	2	2	5	
---	---	---	---	---	--



Pointer Arithmetic

```
1  template <typename T>
2  void printElements(T* array, int size)
3  {
4      T* ptr = array;
5      T* end = array + size;
6      ...
28     while (ptr < end) {
29         std::cout << *ptr << " ";
30         ++ptr;
31     }
32     std::cout << std::endl;
33 }

34
35
36
37
38
39
```



Array List Add

C	S	2	2	5	
---	---	---	---	---	--

