

Abstract Data Types: Lists 2

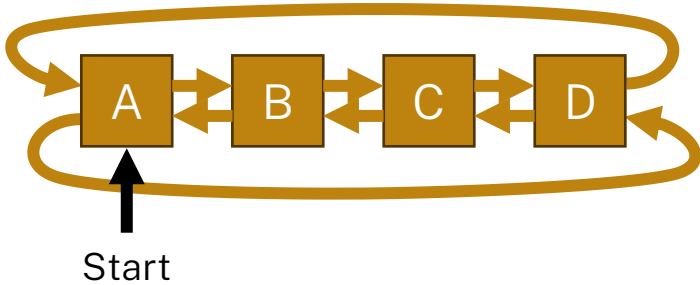
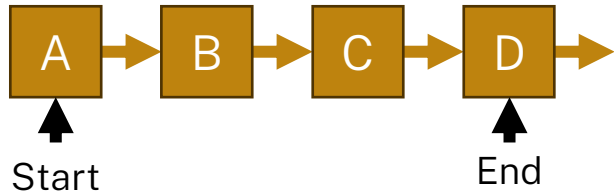
A2

Implementing Lists:

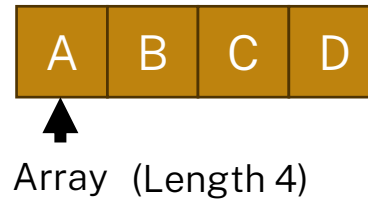
- Linked Lists
- Array Lists

List Implementations

(Singly-/Doubly-)Linked List



Array List



Our List Interface (Initial Attempt)

We will explore lists using a simple interface:

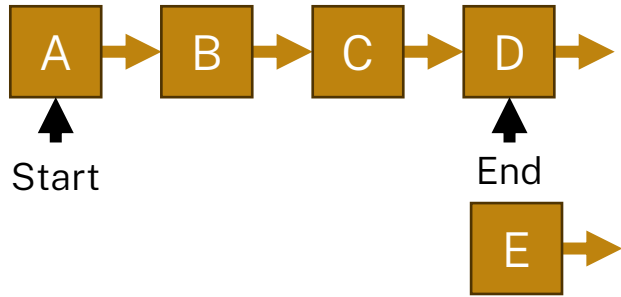
```
public interface ObjectList {  
    void add(Object value);  
    Object get(int index);  
    int size();  
    Object remove(int index);  
    void reverse();  
}
```



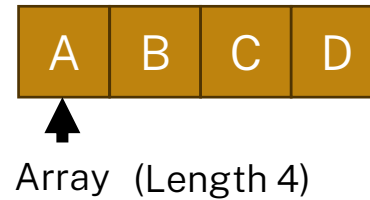
List Implementations - Add

```
list.add(E)
```

Linked List



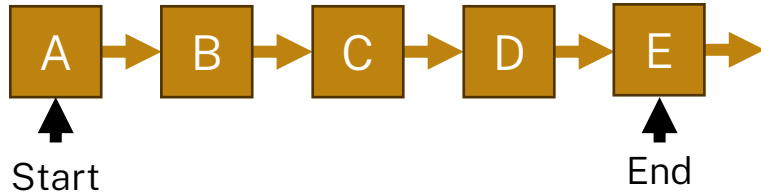
Array List



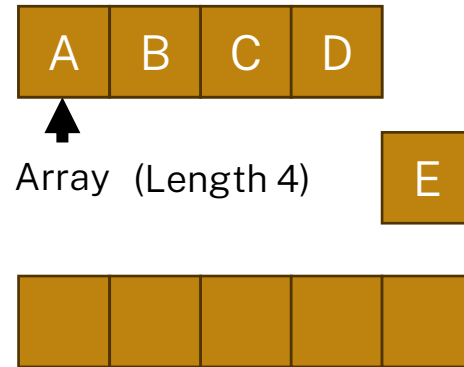
List Implementations - Add

```
list.add(E)
```

Linked List



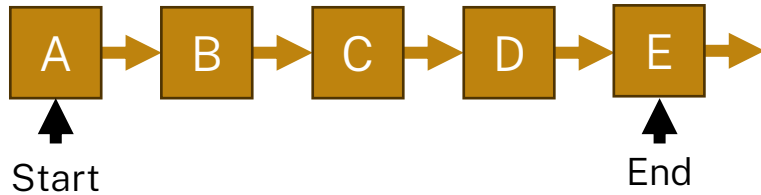
Array List



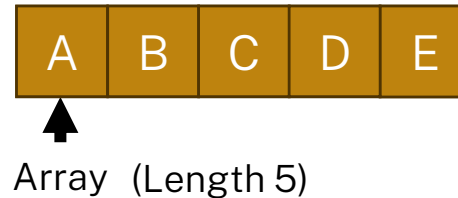
List Implementations - Add

```
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```

Linked List



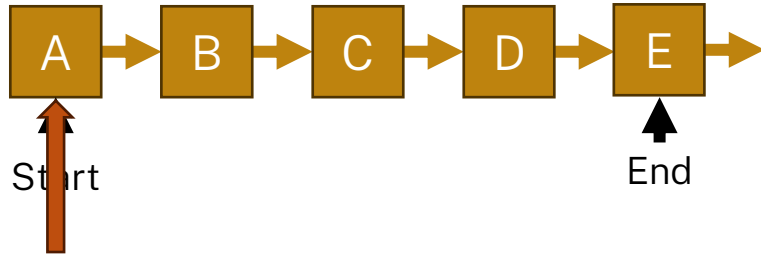
Array List



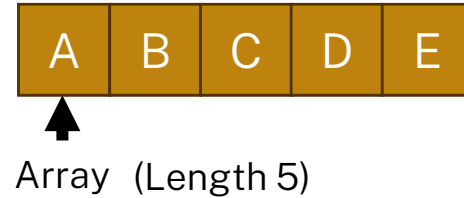
List Implementations - Get

```
list.get(4)
```

Linked List



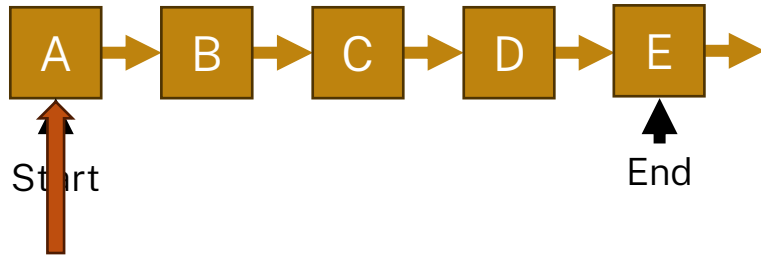
Array List



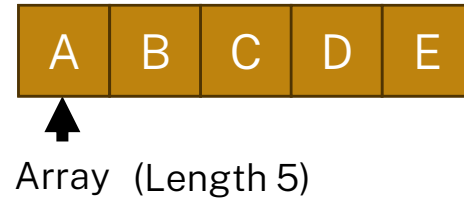
List Implementations - Remove

```
list.remove(3)
```

Linked List



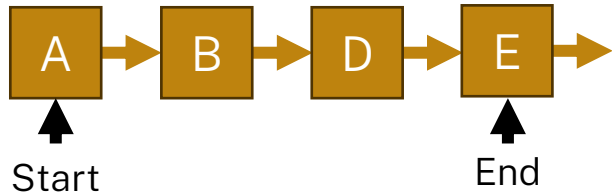
Array List



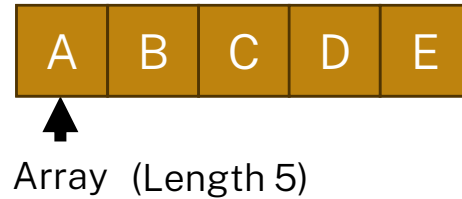
List Implementations - Remove

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Linked List



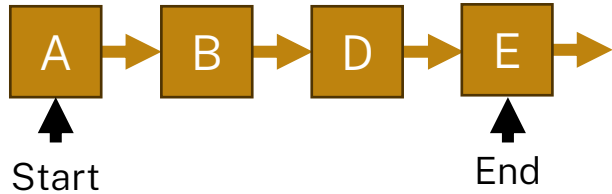
Array List



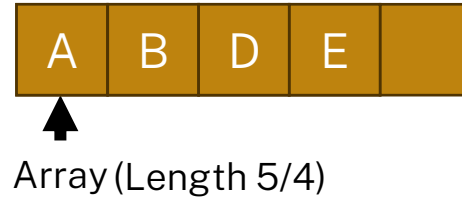
List Implementations - Reverse

```
list.reverse()
```

Linked List



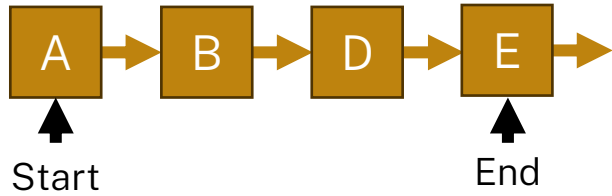
Array List



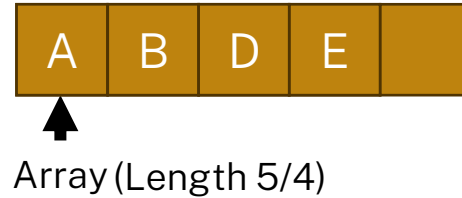
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Linked List



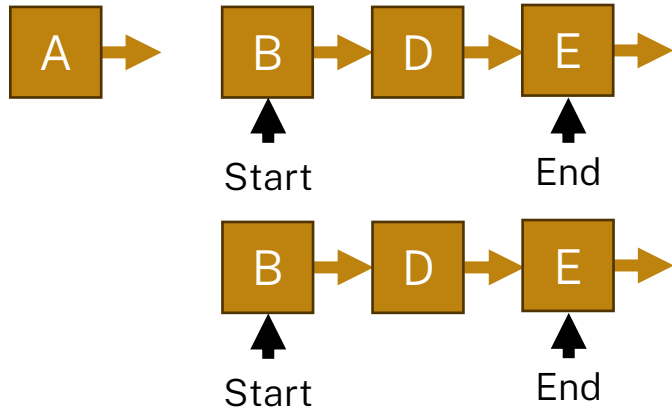
Array List



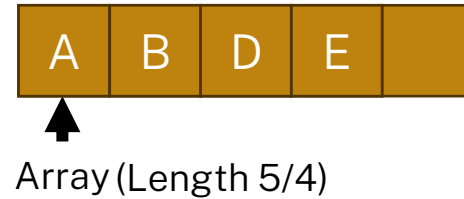
List Implementations - Reverse

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Linked List



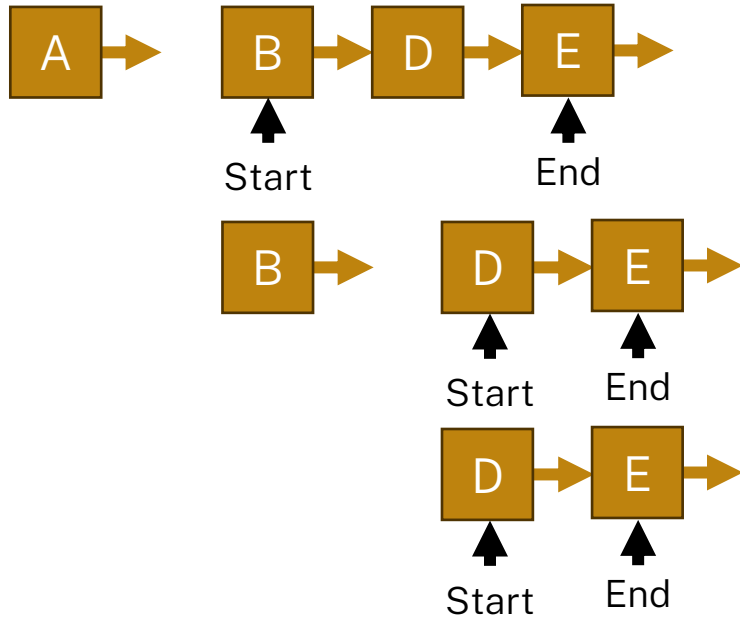
Array List



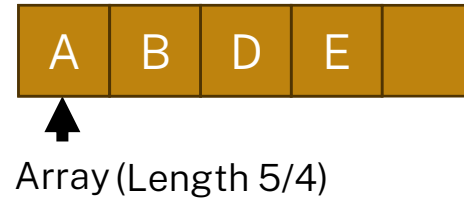
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Linked List



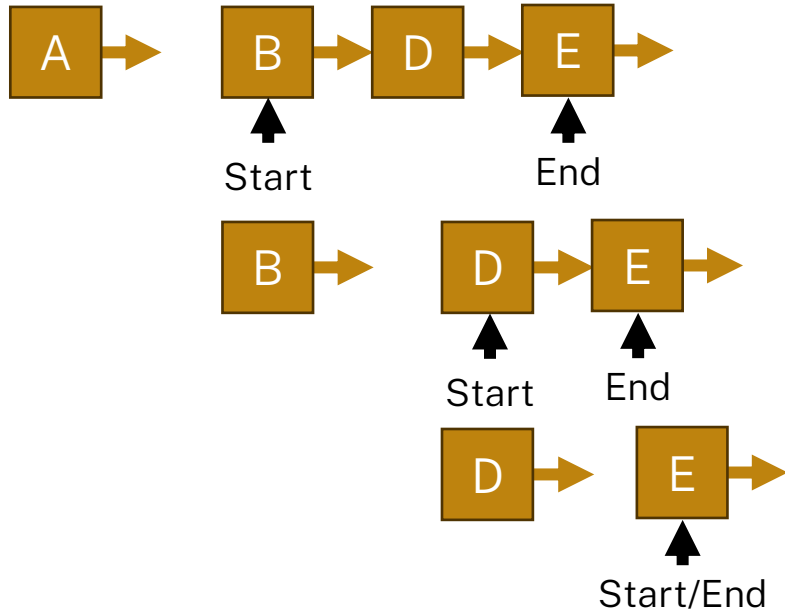
Array List



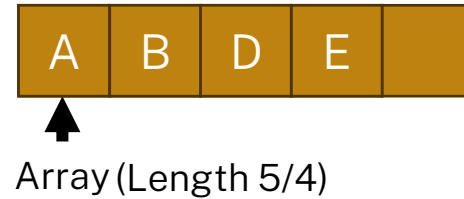
List Implementations - Reverse

`list.reverse()`

Linked List



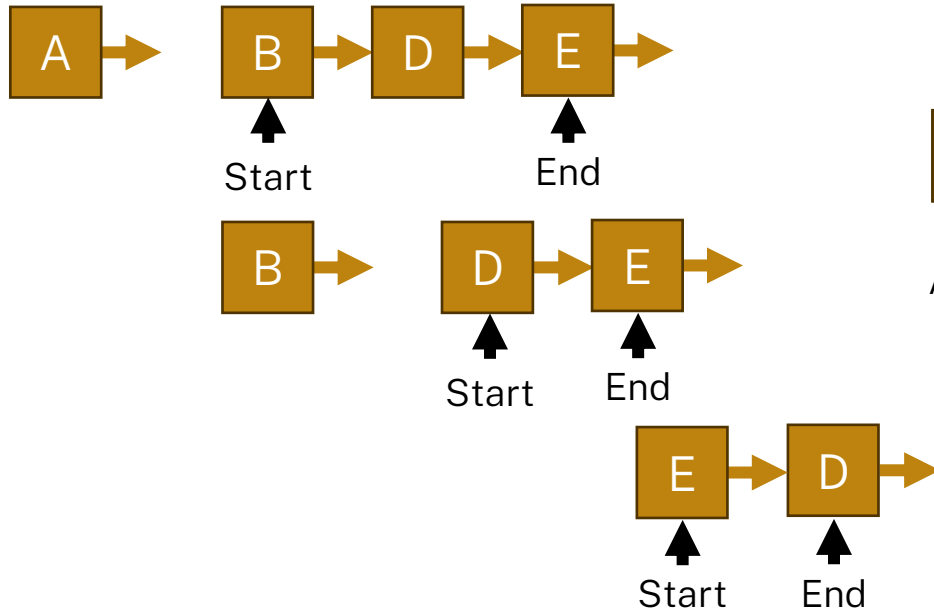
Array List



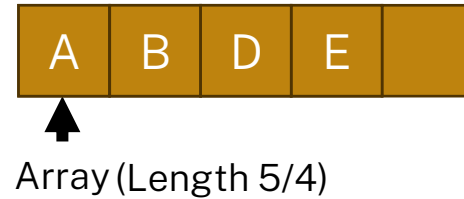
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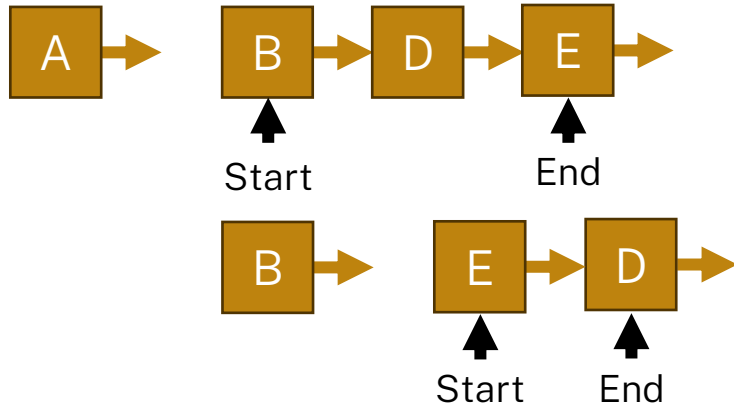
Array List



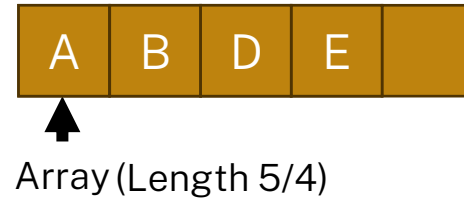
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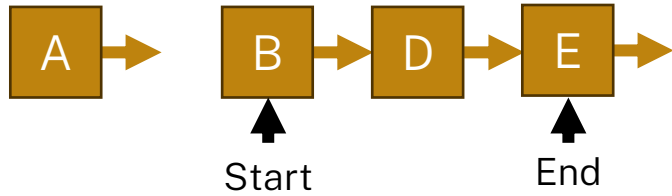
Array List



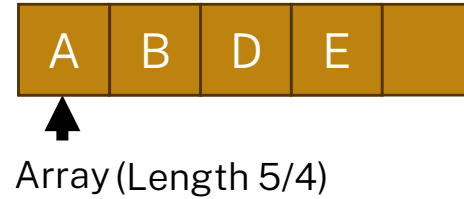
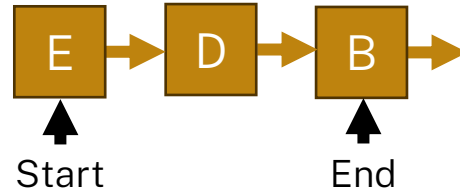
List Implementations - Reverse

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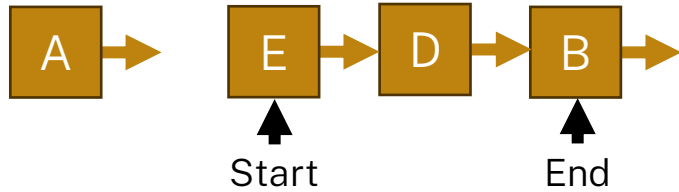
Array List



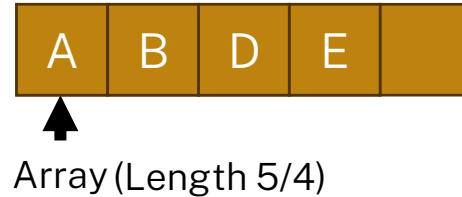
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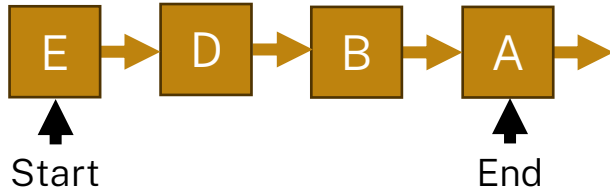
Array List



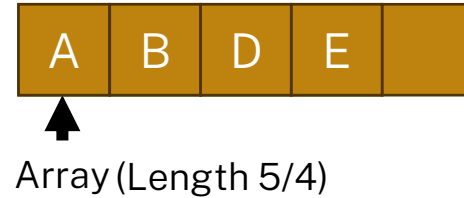
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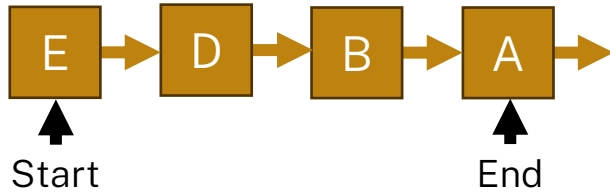
Array List



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Linked List



Array List

