



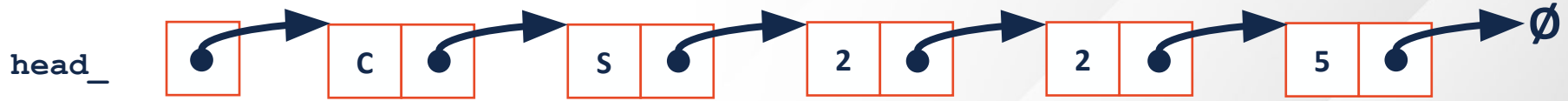
Linked List - recursive insert

Learning Objectives

1. Implement the insert function in a linked list recursively
2. Calculate recursive insert's Big O runtime



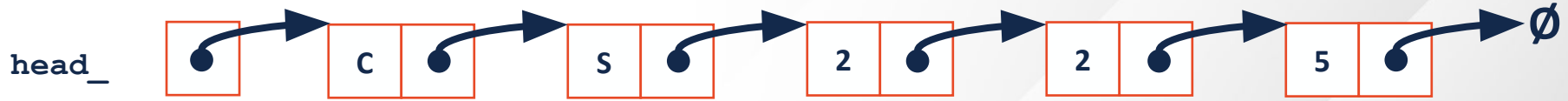
Linked List: insert(data, index)



```
33 ListNode *& List<T>::_index(unsigned index) {  
34  
35 }
```

```
33 ListNode *& List<T>::_index(unsigned index, ListNode *&head) {  
34  
35  
36  
37  
38  
39  
40 }
```

Linked List: insert(data, index)



```
33 ListNode *& List<T>::_index(unsigned index) {  
34     return _index(index, head_);  
35 }
```

```
33 ListNode *& List<T>::_index(unsigned index, ListNode *&head) {  
34  
35  
36  
37  
38  
39  
40 }
```

```
33 ListNode *& List<T>::_index(unsigned index) {  
34     return _index(index, head_);  
35 }
```

```
33 ListNode *& List<T>::_index(unsigned index, ListNode *&head) {  
34     if(index == 0) {  
35         return head;  
36     } else {  
37         return _index(index - 1, head->next);  
38     }  
39 }  
40
```