



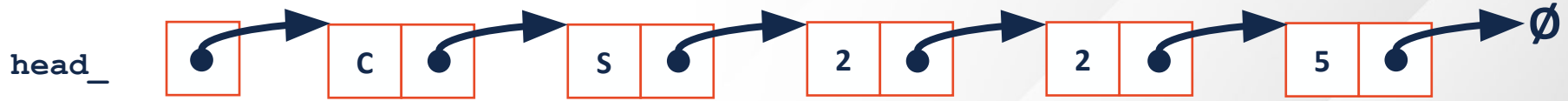
Linked List - iteratively insert

Learning Objectives

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

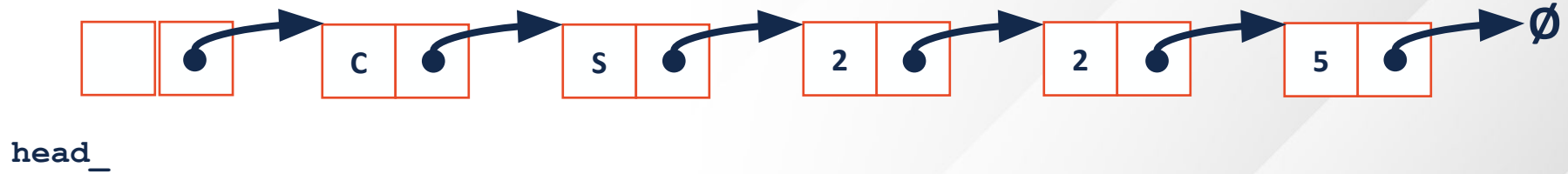


Linked List: insert(data, index)



```
// Iterative Solution:
template <typename T>
typename List<T>::ListNode *& List<T>::_index(unsigned index) {
    if (index == 0) {
        return head_;
    } else {
        ListNode *tmp = head_;
        for (unsigned i = 0; i < index - 1; i++) {
            tmp = tmp->next;
        }
        return tmp->next;
    }
}
```

Linked List: insert(data, index)



```
// Iterative with Sentinel Node
template <typename T>
typename List<T>::ListNode *& List<T>::_index(unsigned index) {
    ListNode *tmp = sentinel_;
    for (unsigned i = 0; i < index; i++) {
        tmp = tmp->next;
    }
    return tmp->next;
}
```