

Linked Lists

January 28/29



Administration

- Exercise 4 is out.
- Exercise 3 will be taken up in tutorials this week.
- Midterm: Friday February 13, 7-9pm.
- Assignment 1 out soon.



Linked Lists

Pros and Cons

- Dynamic size – never use more space than needed.
- Fast insert, delete at front (**why are arrays slow?**)
- Slow for search.
- Slow for inserting in the middle.

Linked List Operations

- Insert node into linked list. *Where?*
- Remove node from linked list. *Where?*
- Find and return node in linked list.
- Print nodes in linked list.

Linked Lists - Remove

Q. In order to **remove a node** in the middle of a list, what do we need to know?

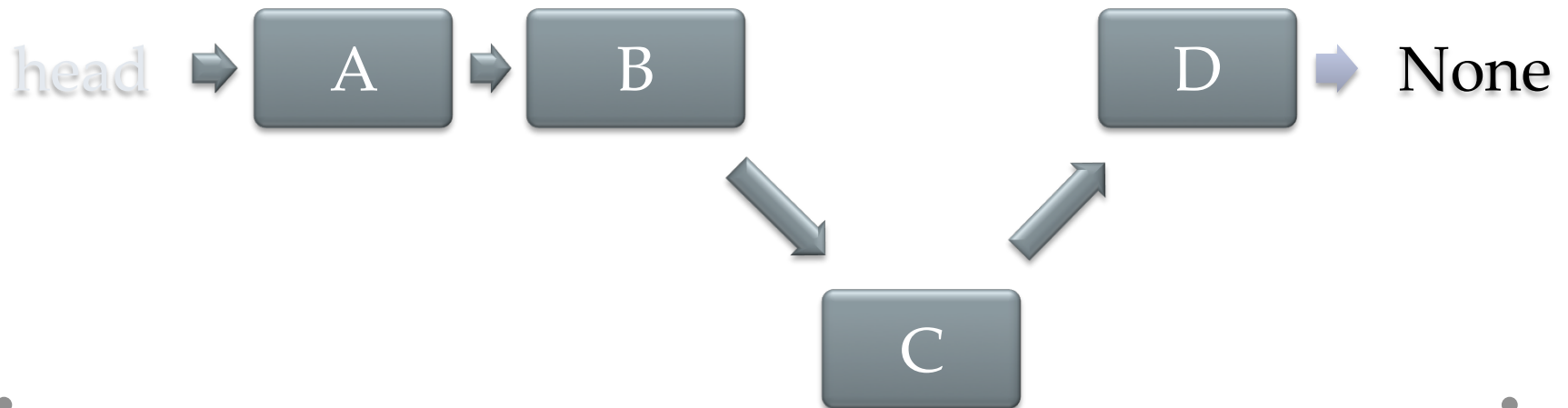
A. The node that **links** to it. If we want to delete C, we need to be at B.



Linked Lists - Remove

Q. How do we remove the node?

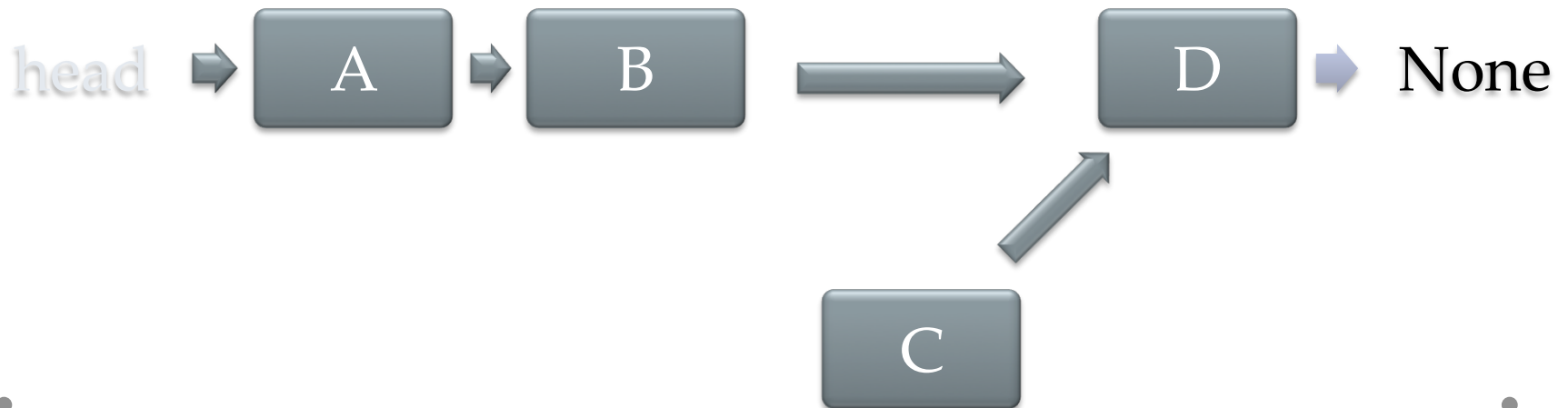
A. Have B link to D.



Linked Lists - Remove

Q. How do we remove the node?

A. Have B link to D.



Linked Lists ADT



- Iterative approach.
- Recursive approach.
- We will look at both.
- Which one should we do first?