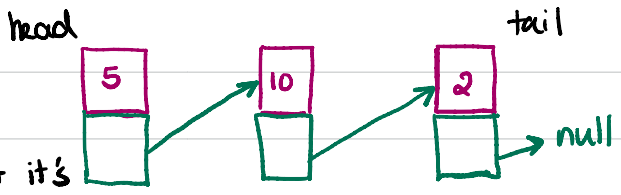
Linked Lists



- a list that is linked
- linked lists are null terminated, which signifies that it's the end of the list.
- an element that links to the next element and keeps going until the last element that points to null.
- sorted or un-sorted and can contain any data type

Why Linked List?

- linked lists have a loose structure that allows you to insert a value into the middle of the list.
- in a linked list, if you want to go to a certain place, you start at the head and traverse the list until you get to item → O(n)
- similar to iteration but call it traversal because don't know when it will end.
- better than hash tables because there is an order.

prepend → O(1)

append → O(1)

lookup → O(n)

insert → O(n)

delete → O(n)

Pointer

- a reference to another place in memory or another object or another node

Doubly Linked List

- also links to the node before it
- doubly linked lists allow us to traverse our list backwards
- lookup would be more efficient because we choose to start at the head or the tail.
- but more memory space