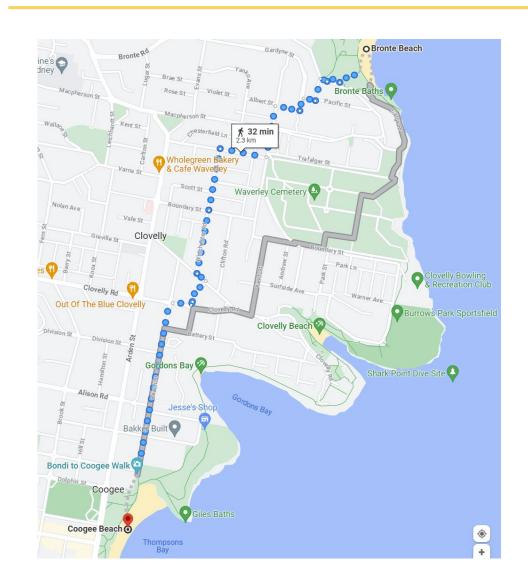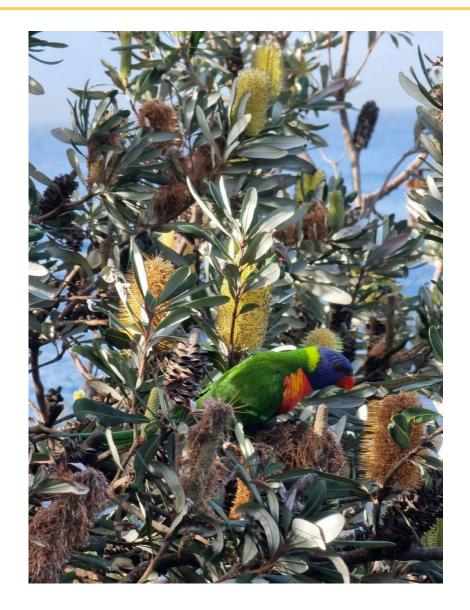# did my first beach walk!

what bird is this

COMP1511 Week 8!

T14A: 2pm – 5pm

Tutors: Me + Vivian Zheng

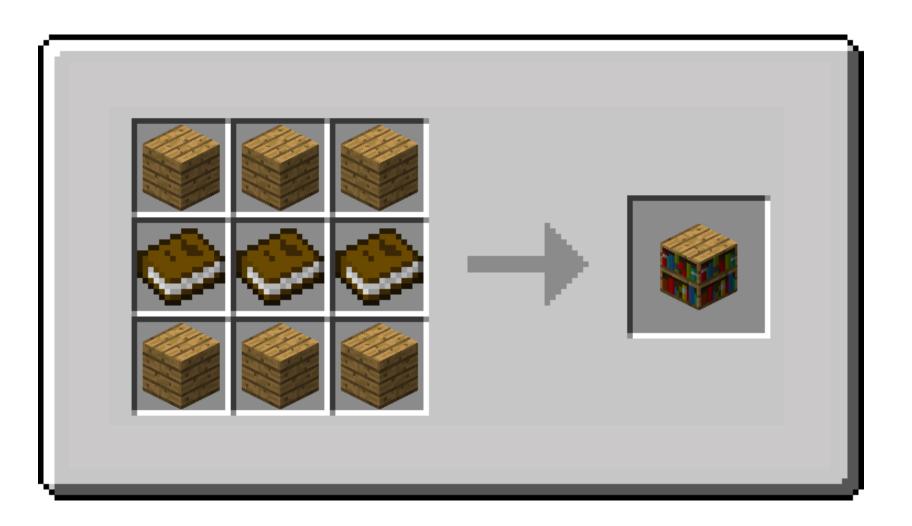# My GitHub:

https://shorturl.at/zMTX5

EdStem Lessons:

https://shorturl.at/krtG9

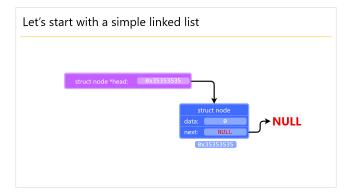# Time to start Assignment 2!

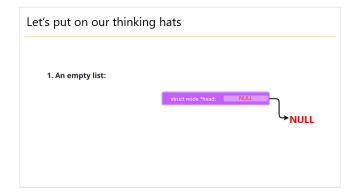Source: Minecraft

The Agenda

Malloc (10 mins)

Note: look at this after malloc.c

- When to use **malloc**?
  - Dynamic array size
  - Can change size of array (not covered in 1511)
  - Can return a pointer
  - Can use helper functions with linked lists (coming soon)
- When not to use **malloc**?
  - Simple
  - Memory leaks

Diagramming LLs (20 mins)

Let's start with a simple linked list

LL Insertion (15 mins)

Let's put on our thinking hats

1. An empty list:

LL Practice (15 mins)

Now put on your pseudocode-writing hats

1. An empty list:

Note: look at this after malloc.c

- When to use `malloc`?
  - Dynamic array size
  - Can change size of array (not covered in 1511)
  - Can return a pointer
  - Can use helper functions with linked lists (coming soon)
- When not to use `malloc`?
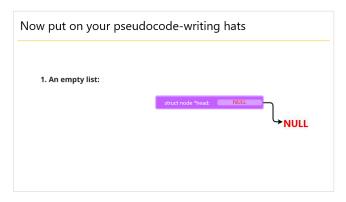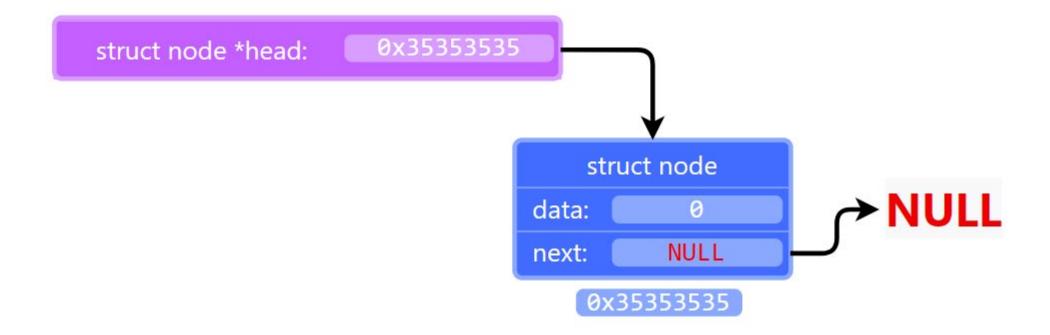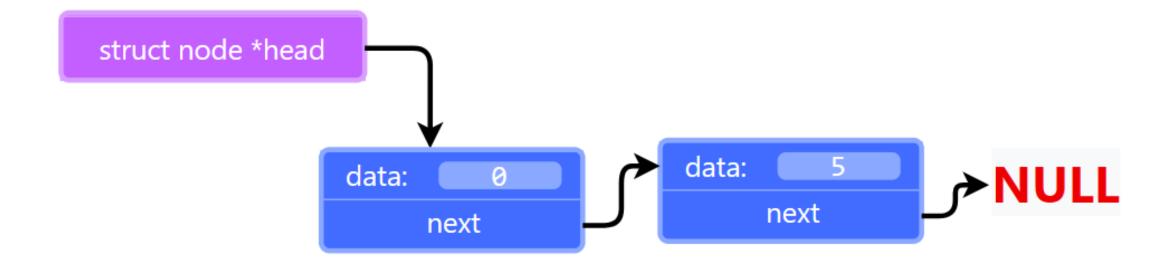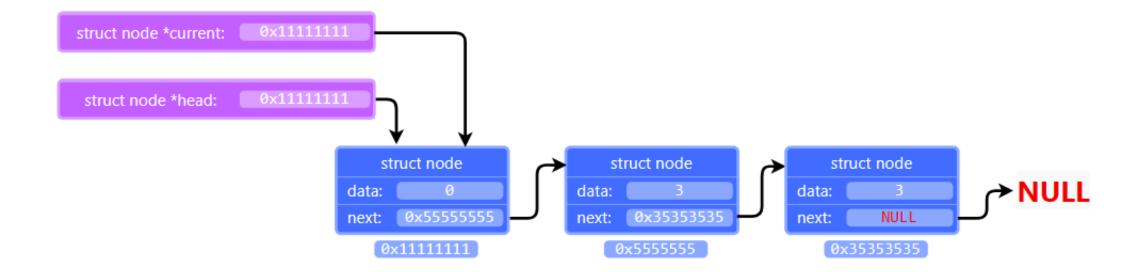 - Simple
  - Memory leaks

Let's start with a simple linked list

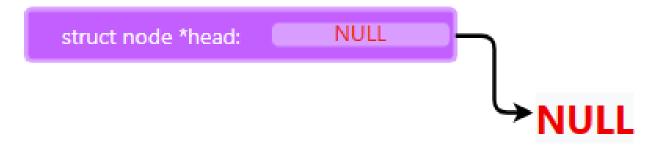# How would insertion work visually? How do we get here?

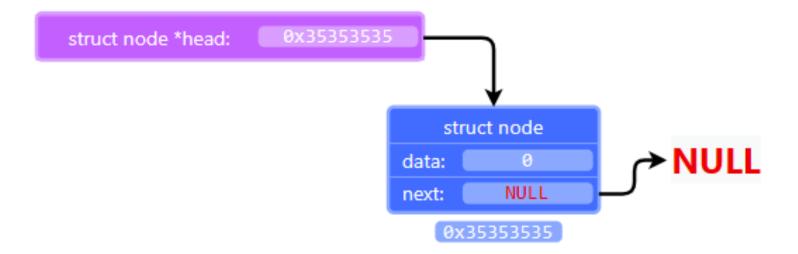# What about iterating? What's special about the tail node?
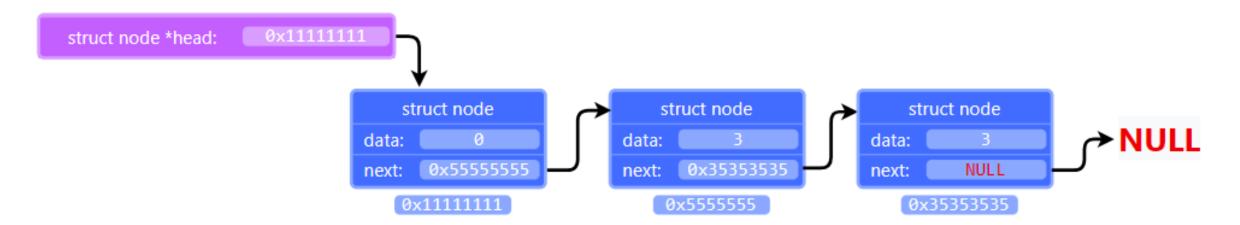
Let's put on our thinking hats

1. An empty list:

struct node *head: NULL

NULL

Let's put on our thinking hats

2. A list of length 1:

Let's put on our thinking hats

3. A longer list:
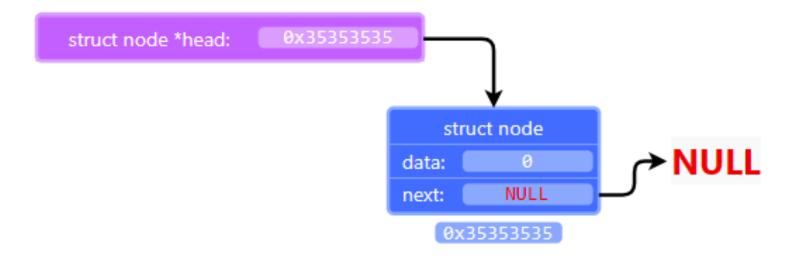
Now put on your pseudocode-writing hats

1. An empty list:

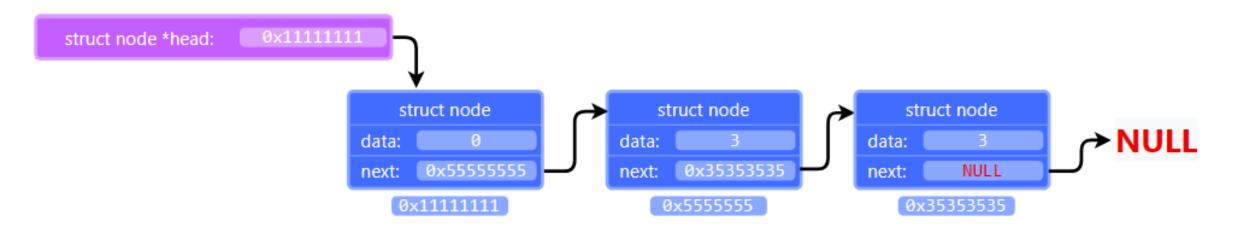struct node *head: NULL

NULL

Now put on your pseudocode-writing hats

2. A list of length 1:

Now put on your pseudocode-writing hats

3. A longer list:

VSCode Shortcuts

- Start with Ctrl+Shift+P
  - "Toggle Multi-Cursor Editor"
  - Convert text casing: (highlight text) → Ctrl + Shift + P → "Transform to ..."
- Multiple Cursors: Ctrl + Click anywhere
  - Cursor over multiple lines vertically: Shift + Alt + Click on line
- Duplicate Line: Ctrl + Shift + Alt + Up/Down Arrow
- Move Lines: Alt + Up/Down Arrow
- Change All Occurrences: Ctrl + Shift + L or Ctrl + D
- Indentation: (Highlight line/lines) → Ctrl + Left/Right Square Bracket
- Find and Replace: Ctrl + F → (click dropdown) → Replace next