one down one to go

COMP1511 Week 9!

H13A: 1pm – 4pm

Tutors: Me + Vivian Zheng

My GitHub:

https://github.com/william-o-s/unsw_comp1511_tutoring

Course Homepage:

https://cgi.cse.unsw.edu.au/~cs1511/23T3/

The Agenda

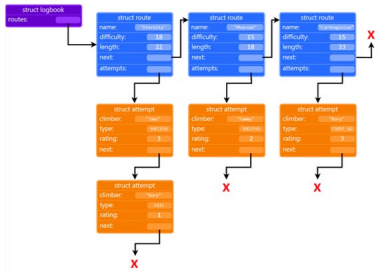
ass1 Feedback (10 mins)

Assignment 1 Feedback

- Command loop
  - Giant `main()` functions are bad
  - Separate more long functions into smaller functions
  - Btw did you know you can #define `char`s
- `scanf()` for each command
  - Keep `scanf()` inside the command's function, not the command loop!
- Commenting
  - Please comment *everywhere* (sorta)
- Look at 'repeat-y' code
  - You can extract (with some effort) the code for 4 directions into one function

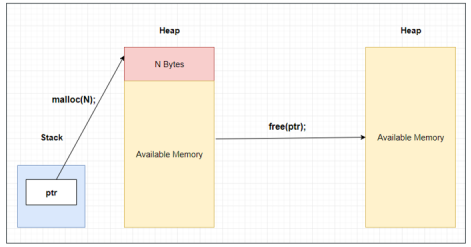
ass2 Discussion (10 mins)

The structure of the program



Free (20 mins)

If `malloc` is the borrowing, `free` is the repaying



Source: log2base2

LL Practice (20 mins)

Is everyone ok with linked lists?

- Recap insertion and deletion
- Try this structure for `copy()` and `list_append()`:
  1. Draw a diagram of what things will look like, before and after
  2. Identify how many things will need to be malloced or freed.
  3. Plan out steps for what will need to happen in the copy function
  4. List any special cases

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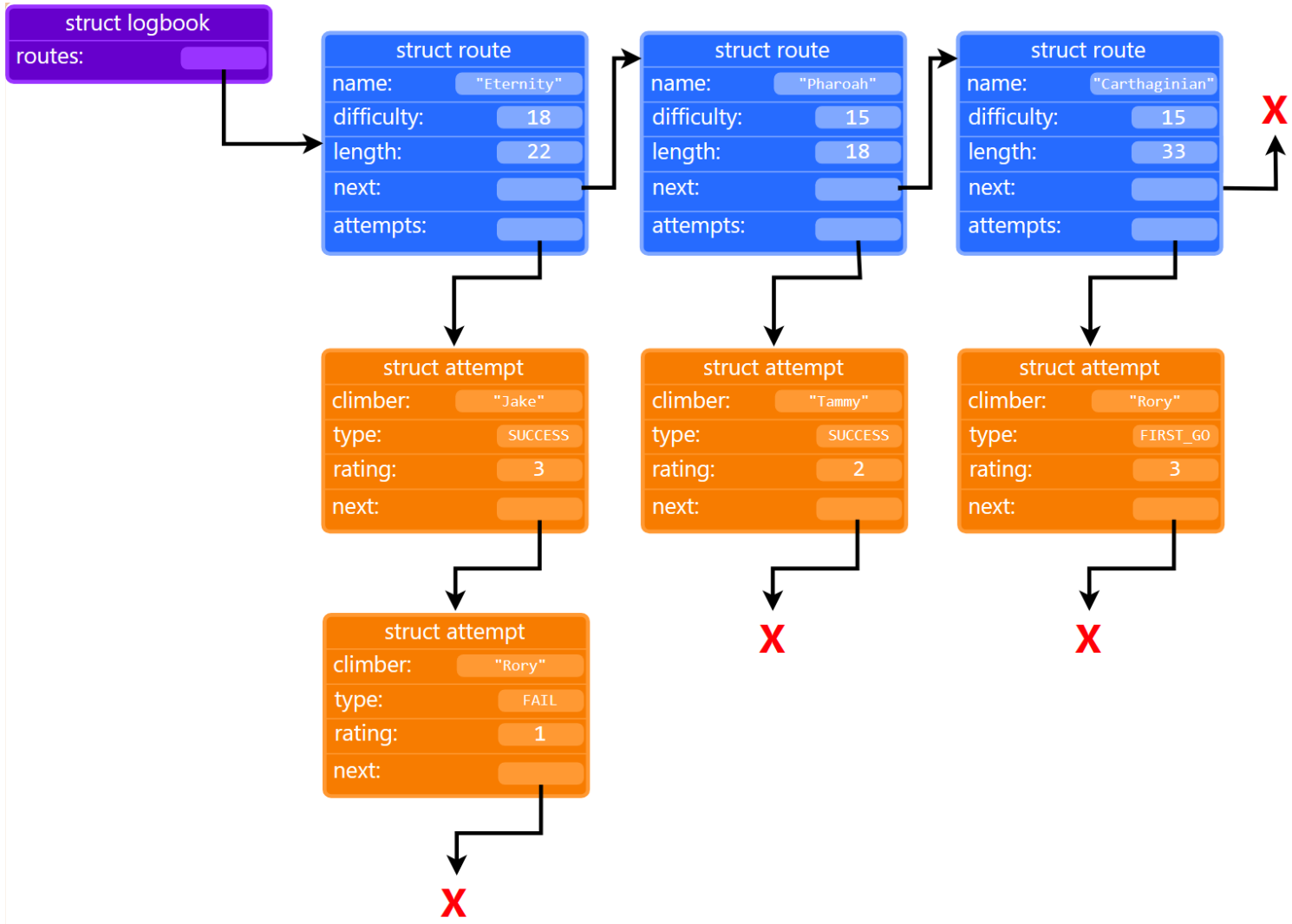

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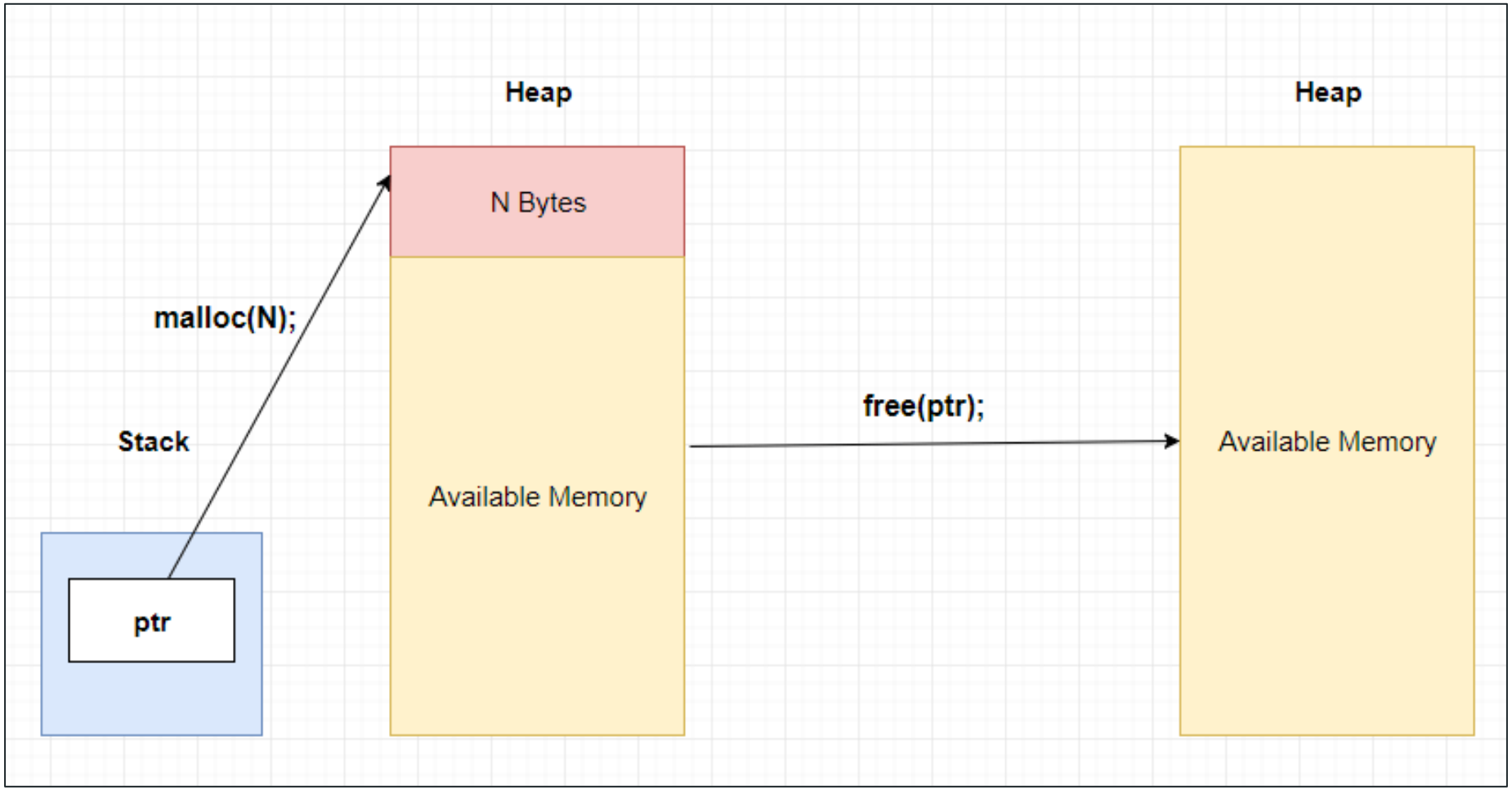


Source: log2base2

problems you might run into

Memory Leak

```
Error: free not called for memory allocated with
 malloc in function create_node in memory_free.c
 at line 10.
```

Use after free

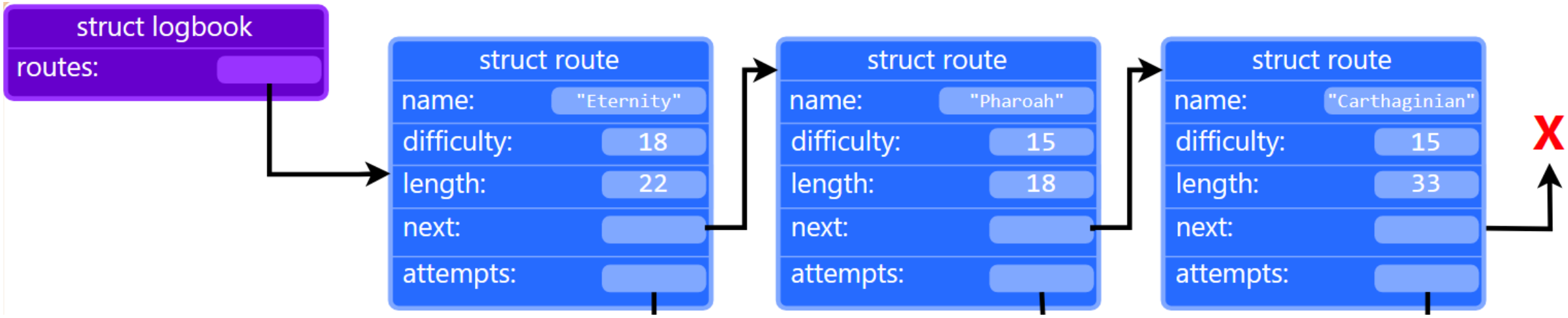
problems you might run into

Memory Leak

Use after free

```
Runtime error: malloc use after free
dcc explanation: access to memory that has
 already been freed.
```

how would you free this list?



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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