

COMP1511

WEEK 10

Starting at 9:08am

**please complete
myExperience!**



Congrats for making it to Week 10!

- Any reflections on the course / term?
- Favourite parts?
- Things that weren't so good?
- What are you grateful for?

Questions from the course?

- **Today**

- ADTs and Stacks
- A bit on recursion
- Anything you want me to go over
- Labs this week/final exam

FIFO

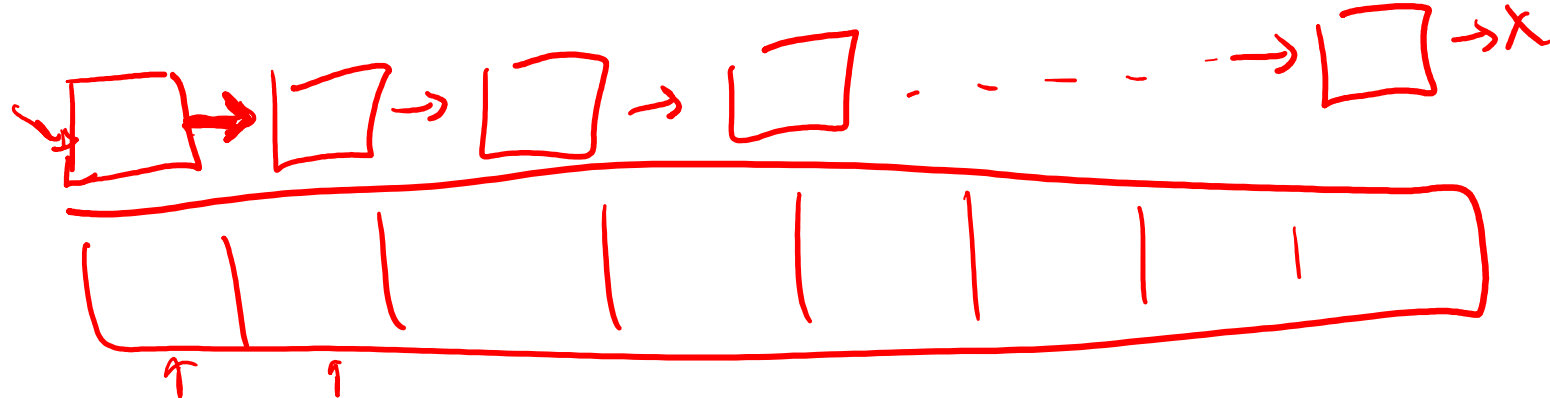
ADTs, a concept – consider a QUEUE



create queue



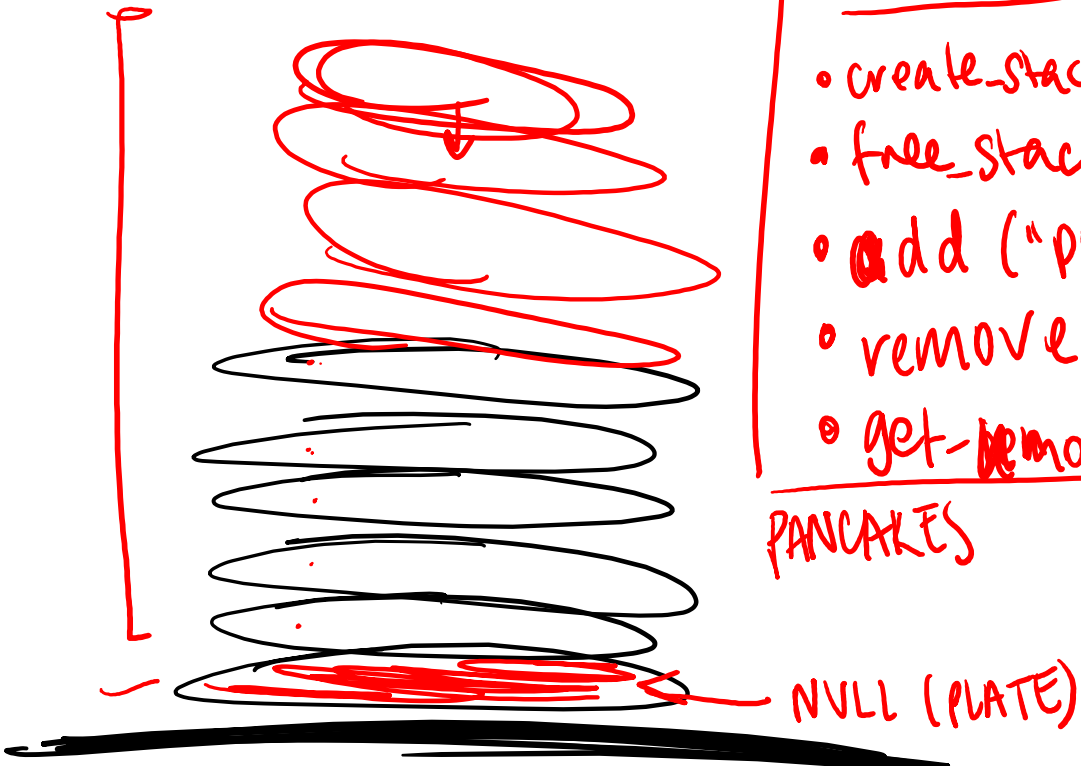
free queue
see count



- protect data
- "abstract" problem

Stack - last in, first out

• example: undo button

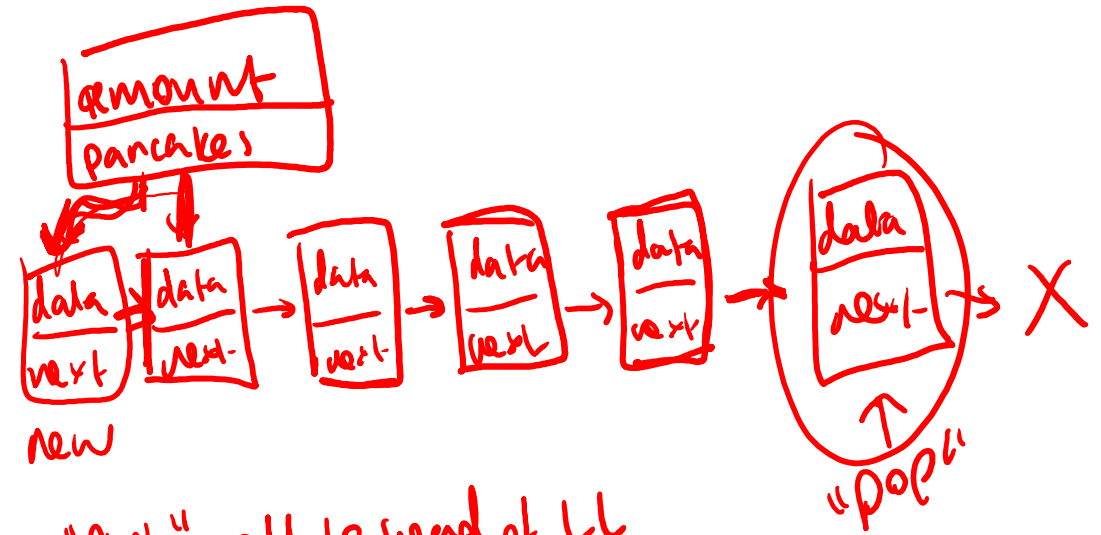


OPERATIONS

- create_stack
- free_stack
- add ("push")
- remove ("pop")
- get-amount

PANCAKES

Implementation - linked list



- "push" - add to head of LL
- "pop" - take from head of LL

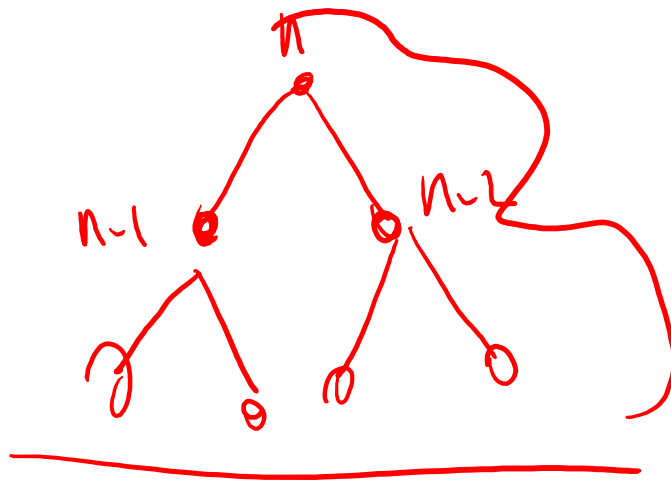
Recursion

$$5 \times 4 \times 3 \times 2 \times 1$$

$$5! = 5 \times 4!$$

$$\begin{aligned} 4! &= 4 \times 3! \\ 3! &= 3 \times 2! \\ 2! &= 2 \times 1! \\ 1! &= 1 \times 0! \\ 0! &= 1 \end{aligned}$$

- A function that calls itself
 - Breaks itself down into smaller sub-problems
- How to solve any recursion question
 1. Write the base/terminating case — $0! = 1$
 2. Write the recursive case — $n! = n \times (n-1)!$



4096

```
int minimum(struct node* head) {
```

```
    if (head == NULL) {  
        return INT_MAX;
```

base
case

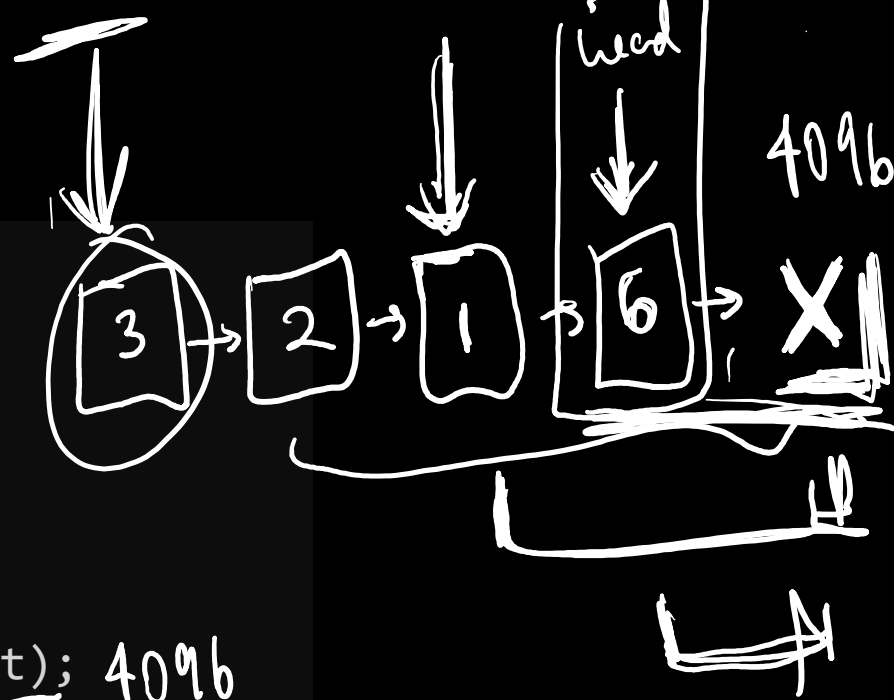
```
    int curr_min = head->data; 6  
    int rest_min = minimum(head->next); 4096
```

```
    if (curr_min < rest_min) {  
        return curr_min; 6 1  
    }
```

```
    return rest_min;
```

```
}
```

recursive



Week 10 Lab

- Exam Environment
 - Part 1 (Short Answer/Multiple Choice Questions)
 - Not worth marks today
 - Part 2 (Programming Questions)
 - Some lab exercises for this week found here
 - 7-8 questions in the final exam
- Normal lab exercises
 - 3 lab exercises here (2 dot + 2x3 dot)

Final Exam

- Read-only open book, take-home exam (online)
- Designed to take 3 hours
- A staff member will always be available to contact



myExperience Term 1 for COMP1511 Programming Fundamentals

★ COMP1511 Programming Fundamentals

Please respond to all of the questions below

	Strongly disagree	Disagree	Moderately disagree	Moderately agree	Agree	Strongly Agree
I have felt supported to learn in the online environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I developed my ability to work effectively with others online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt part of an online learning community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The feedback helped me learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online course resources helped me learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The assessment tasks were relevant to the course content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

★ Overall I was satisfied with the quality of the course

	Strongly disagree	Disagree	Moderately disagree	Moderately agree	Agree	Strongly agree
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What have been the best elements of studying online?

What were the most challenging elements of studying online?

Previous Next Save Submit Progress 0%

<https://myexperience.unsw.edu.au/>