

CS2100 - Stacks & Queues

Note Title

2/2/2016

Today

- Lab 3 is up
prelab due before 9am tomorrow

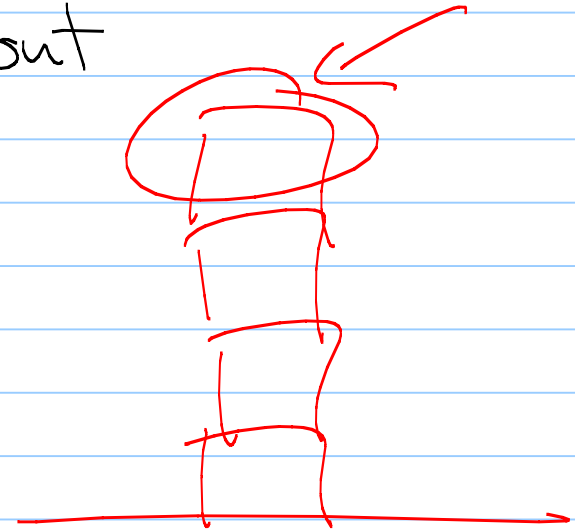
- HW 3 is up

Last Time: Stacks

Ordering: Last in, first out

Operations:

- push + pop
- top



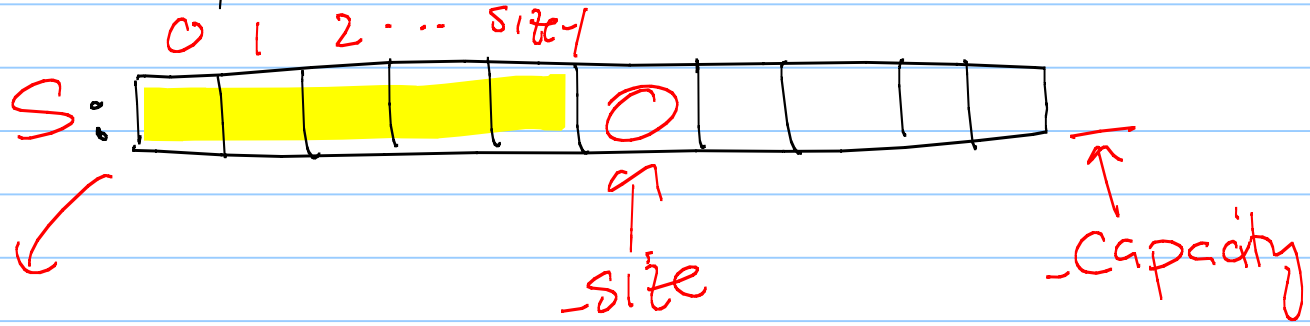
Implementation:

Linked list implementation ✓

→ Array version

Today:

Array-based version



Runtimes (for stacks)

Array stack

all $O(1)$ time

Linked Stack:

$O(1)$ except destructor: $O(n)$

A note on error handling & const fens:

I've been a bit lazy.

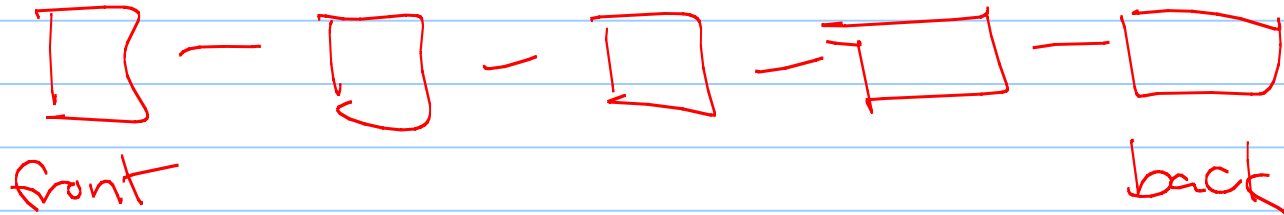
Let's rethink SLinked List, as well as stacks.

What operations might need to raise an error?

Queues

British for what? *line*

remove
from here ↘



add
behind
here ↙

Behavior

front

back

push (5)
push (2)
push (11)
push (16)
pop()
pop()
push (3)
pop()
push (12)

5
5, 2
5, 2, 11
5, 2, 11, 16
2, 11, 16
11, 16
11, 16, 3
:
:

Setup & Structure

Also a simple structure - similar to stacks.

(Limited functionality, but fast.)

Operations: STL

push, pop, top, empty, size

Implementations

Same choice:

