Announcements

- HW due tonight

- Next HW is posted (read before Wed.)
Last Week: Stacks

Ordering: Last in, First out

Operations:
- push + pop
- top

Implementation:
- finished LinkedStack
- ArrayStack
Today:

Array-based version
Runtimes (for stacks)

- **push**: $O(1)$
- **pop**: $O(1)$

Fastest operations possible

**Housekeeping**:

- Linked: $O(n)$
  - no max size
- Array: $O(1)$
  - but - max size!
Queues

British for what?  FIFO — first in, first out

front  pack

pop  push  (front)
Behavior

push(5)
push(2)
push(1)
push(12)
pop()
pop()
pop()
push(3)
pop()
push(12)

front: 5, 2, 1, 12
back: 1, 2, 1, 12
Setup & Structure
Also a simple structure—similar to stacks.

(Limited functionality, but fast.)

Operations:
- empty
- size
- push
- pop
- front

(Housekeeping)
Implementations

Same choice:

* Array

* Linked structure
In Slurked List: not good enough
struct Node {
    Node* next;
    Node* prev;
    Object data;
}

head

* (delete node)

tail

0

+ (add node)

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