

CS 2100 - Stacks

Note Title

2/1/2016

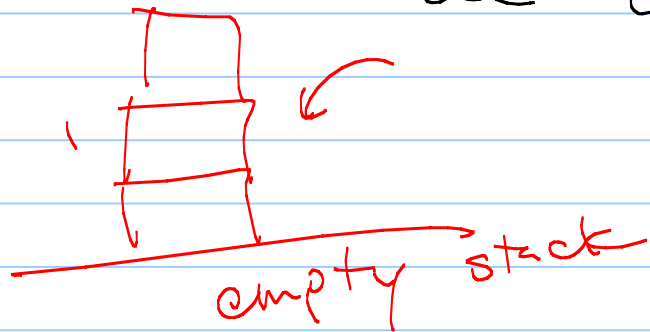
Announcements

- Lab on wednesday this week
(tomorrow is normal lecture)
- Next HW-up today

Stack: a way to store a list of data

Ex: Web browser: store history for "back" button

Ex: Text editors: store previously used commands



LIFO

↪ abstract data type

The stack ADT:

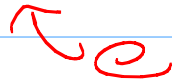
Supports 2 main functions:

- push(e): add e to "top" of
the stack

- pop(): remove e from the stack

Others

- top(): returns top element of the stack without removing it



- empty(): returns true if stack is empty

- size(): returns # of objects in the stack

The Standard template library

- Has `iostream`, `string`, etc.

- Also has basic data structures!

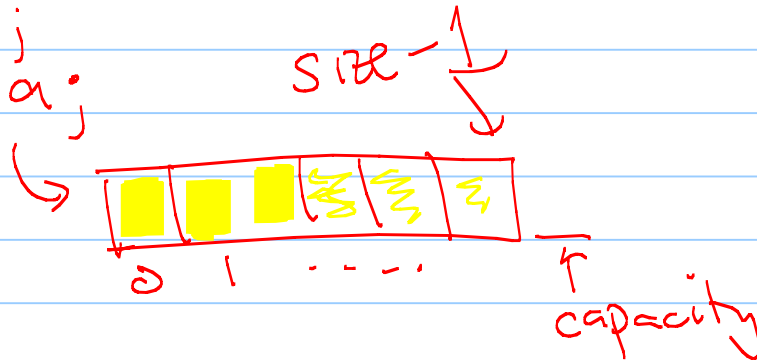
(We'll be coding our own anyway.)

- See cplusplus.com for documentation...

How to implement?

- array
- linked list

private:
int size;
Object* a;



private:
int size;
SLinkedList S;

Note:

From the outside, these look the same!

- still test via:

Linked Stack
Array Stack

```
Stack <int> mystack;  
mystack.push(12);  
mystack.push(11);  
cout << mystack.top() << endl;  
mystack.pop();  
//etc.
```

