CS180 - Stacks (on 5.1)

Announcements

- HW due Sunday

- Look for makefile on announcement page or make

or:

```
$ g++ SLinkedList.h
g++ testSLL.cpp
```
Stack: a way to store a list of data

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

Ex: Text editors: store previously used commands
The stack ADT:

Supports 2 main functions:

- \( O(1) \) - push \((e)\): add \( e \) to "top" of the stack
- \( O(1) \) - pop(): remove \( e \) from the stack

(limited, but fast)
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
- top(): returns top element of the stack without removing it

- empty(): returns true if stack is empty

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

Object is templated type

private:

int size; // size of stack
Object* S; // array holding stack
int cap; // size of underlying array
Other functions to code

Housekeeping!
Linked Stacks

Underlying data will be kept in a linked list, not an array.

#include "Slinkedlist.h"

private:

Slinked List *S;
int -SIZE;

S:  ————

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Functions

What to code?

Same!