CSE 12 – Basic Data Structures and Object-Oriented Design
Lecture 7

Greg Miranda, Fall 2020

This lecture is being recorded

Announcements

- Quiz 7 due Monday @ 9am
- Survey 2 due tonight @ 11:59pm
- PA2 released yesterday
  - Closed PA
  - Due Wednesday @ 11:59pm

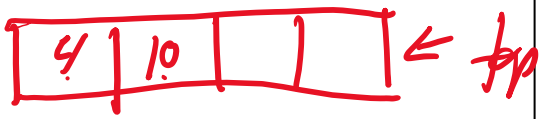
Topics

- Questions on Lecture 7?
- Stacks
- Other Topics
  - Adapter Pattern
  - Composition
  - Stacks & Queues with LinkedList

Questions on Lecture 7?

A **stack** has two operations, **push** and **pop**. Pushing adds an element to the **top** of the stack, and **pop** removes the **top** element and returns it.

```
Stack<Integer> s = new ALStack<>();
s.push(4);
s.push(10);
s.push(13);
Integer i = s.pop();
s.push(5);
Integer i2 = s.pop();
```



What number is stored in i?

A: 4 B: 10 C: 13 D: 5
E: Something else

What number is stored in i2?

A: 4 B: 10 C: 13 D: 5
E: Something else

What is the contents of the stack? (starting at the **top**)

A. 5, 13, 10, 4
B. 10, 4
C. 5, 13
D. 13, 10, 4
E. other

```
import java.util.ArrayList;

public interface Stack<E> {
  void push(E element);
  E pop();
  int size();
}
// IDEA: Use array lists to implement both
class ALStack<E> implements Stack<E> {




}
```

Other Topics

- Adapter Pattern
- Composition
- Stacks & Queues with LinkedList