Announcements/Reminders:

- P2 and HW3 assigned – see due dates
- HW1 grades and solutions

Last class:

- Comparing Complexities of List implementations
- Shadow array improvement
- Adding iterators to Linked Lists

Today:

- Stacks and Queues
  - Intro
  - Implementations and Complexity
  - Applications
  - findMax
ADTs: Position-oriented vs. Value-oriented
Stack ADT

Conceptual Picture

Operations

Implementing using an Array

Complexities

Implementing using a Chain of Nodes (Linked List)

Complexities
Queue ADT

Concept

Operations

Implementing using a Linked List

Complexities
Implementing a Queue using an Array

Two options:
Implementing a Queue using a “Circular” Array
Using Stacks and Queues: Some Applications

Balanced parentheses:

Infix to Postfix and its Evaluation:

Notation:

Example:
Simulating a Queue with Two Stacks