CS367 Announcements
Tues, July 9th, 2013

- Midterm Thursday July 11th in class

  - material through July 3rd
  - topics posted
  - sample problems posted

Last Time

- Complexity Review

- Finish Linked Lists

- Stacks and Queues

Today

- Stacks and Queues

Position-oriented ADTs

Stack ADT

Conceptual Picture

Operations

Array Implementation

Linked List Implementation

Complexities

Queue ADT

Conceptual Picture

Operations

Implementing a Queue using a linked list

> **Option 1:** front of queue is at head, rear of queue is at tail

```
front                                                          rear


head                                                           tail
```

> **Option 2:** front of queue is at tail, rear of queue is at head

```
rear                                                          front


head                                                           tail
```

Implementing a Queue using an array

Option 1: front of queue is at _____, rear of queue is at _____

Option 2: front of queue is at _____, rear of queue is at _____

Implementing a Queue using a Circular Array

Evaluating Post-Fix Expressions with a Stack

Pre-Fix   * 3 + 5 7

In-Fix   3 * (5 + 7)

Post-Fix   3 5 7 + *

Example of evaluating with a stack:

3 7 * 5 2 + −