CSE 326
Lecture 2

Spring Quarter 1995

Homework Policies

- Always due on Wednesdays, at the beginning of class, on the table.
- Late homeworks not accepted.
- Students are encouraged to discuss the problems, but all writing must be done independently, and without the benefit of seeing anyone elses work.

Collaboration in General

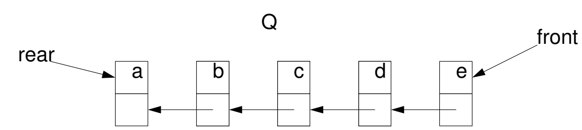
- All student directories are private. You should never look at another students files without their permission. It is wise to protect your files from read access by others.

WWW

- http://www.cs.washington.edu/education/courses/326/spring95 or just go to the departmental home page, then on to the course web.
- Resources
  - class messages - check them everyday
  - info on exams
  - homework assignments
  - project assignments
  - office hours
  - thumbnails of lecture overheads in postscript

List Data Structure for a Queue

- Linked list



- Enqueue(Q,x)

  p := newnode;
  p.data := x;
  p.next:= nil;
  rear.next := p;
  rear := p

- Dequeue(Q)

  x := front.data;
  front := front.next;
  return(x)

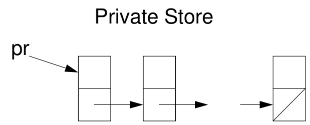
Private Store

- Private store is implement as a list pr of nodes:
  - Enqueue(Q,x)

    if pr = nil then p := newnode
    else {p := pr; pr := pr.next};
    p.data := x;
    p.next := nil;
    rear.next := p;
    rear := p

  - Dequeue(Q)

    p := front
    x := front.data;
    front := front.next;
    p.next := pr;
    pr := p:
    return(x)



Memory Management

- Private store - get blocks from a private store when possible, return blocks to the private store.

  + efficiently uses blocks of a specific size

  - may use too much storage if private store grows unnecessarily large
- Global allocator's store - always get and return blocks to global allocator.

  + blocks of various sizes can be merged into larger blocks

  - allocator may ineffectively handle different size blocks

  - allocator may be slow compared to a private store
- Garbage Collection - run time system recovers inaccessible blocks from time to time. Used in Smalltalk and Lisp.

  + no need to bother with returning blocks at all

  - when a garbage collection occurs there may be an undesirable response time

Unix Introduction

- Dan Fasulo on keyboards