Our Project
the "method" to the madness
and some recursion

University of Virginia
CS201 Software Development
Methods – Spring 2005
Discussion

- Break into small groups
  - someone take notes
  - don't record names, please
  - I'll post these to web
What is the team process?

- try to describe the following:
  - what is the final product?
  - what are you showing your customer in lab next week?
  - what is your team working on this week?
  - what is your manager doing this week?
  - what do you think will happen next week?
Why do we use this process?

- Again with the group (New sheet of paper)
- what are several alternative ways to produce our product we might use in this class?
- what are their relative strengths and weaknesses?
RISKS – name of the game

- What is at risk?
  - to customer?
  - to development team?
(other) RISKS

- schedule slips
- project is cancelled
- system goes bad
- defect rate so high, never used
- business misunderstood
- business changes
- false feature rich
How do we handle the risks?

- schedule slips
- project is cancelled
- system goes bad
- defect rate so high, never used
- business misunderstood
- business changes
- false feature rich
Recursion

- mathematical definition of something that uses the item itself in the definition
  - e.g. factorial numbers
    - N! = N * (N-1)!
  - Can you write this method? Do it!
Recursion – 2 key points

- factorial numbers
  - $N! = N \times (N-1)!$
- Need bottom out condition
- Forward progress condition
  - $N! =$
    - if $N == 1 \rightarrow 1$
    - else $N \times (N-1)!$
You already have this notion loops!

- for(int i = 50; i >= 1; i--)
  - base case:
  - forward progress:
You already have this notion loops!

- for(int i = 50; i >= 1; i--)
  - base case: i >= 1
  - forward progress: i--
Recursive definitions

- LinkedList Node
  public class LinkedListNode {
    private Object info;
    private LinkedListNode next;
    ...
  }

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Head First Java

- great resource
Friday

- Trees – chapter 7
  - look at linked-list version
  - we'll have a coding assignment (modest)