CS3134 #15
10/23/03
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Administrivia
• HW#3 due Tuesday
• Final exam is actually on Tuesday
  – Registrar messed it up this year!

Agenda
• Look at midterm
• Finish Quicksort
• Trees

Quicksort: Picking the pivot
• Imagine a reverse-sorted array
• How long does Quicksort take?
  – O(n²)?
• How can we fix this?
  – Pick pivot more intelligently
  – Any suggestions?
  – Two popular mechanisms:
    • Random
    • Median-of-three
    • Latter is a bit better
• Also, inefficient for small arrays
  – Use insertion sort as a degenerate case…

Trees
• Linked Lists are generally connected to one other link
• What if we connect to multiple other links?
• A Tree is one generalization of a Linked List
• Key definition: no “cycles” amongst children
  – Graphs are more general
• Terminology
  – Node, Edge, Path, Root, Parent, Child, Leaf, Subtree, Level

Next time
• Continue Trees