CompSci 6
Introduction to Computer Science

November 22, 2011

Prof. Rodger
Announcements

• Read for next time Chap. 11.1-2
• Reading Quiz on Blackboard soon
  – Due before class next time
• Assignment 6 due Tues, Nov 29
Problem –
Find the two smallest numbers

• Problem in Chapter 10 – search.py
• Three different algorithms/approaches to finding the two smallest in a list
  – Find, Remove, Find
  – Sort, Identify minimums, get indices
  – Walk through list keeping track of two smallest so far
• Think about how long each step takes
• Compares them by timings
To solve the problem

• Understand the algorithms – are they correct?

• Prepare data
  – randomInts.py

• Time the algorithms
  – Import time
  – Start = time.time()
  – End = time.time()
  – totalTime = end - start
What is Computer Science?

• The Organization of Data, and Searching
Now let’s focus on searching

- Linear Search
  - linear_search1
  - linear_search2
  - linear_search3

- Compare and time three methods

- Binary search
  - algorithm
  - Tradeoff – data must be sorted to use
Binary Search

3  7  8  10  13  18  21  22  25  34  37  42  44  46  49
Welcome Victoria Interrante

- Associate Professor
- University of Minnesota
- Ph.D. UNC-Chapel Hill, 1996

- Research in Graphics and Visualization