

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



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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